I-SERIES INPUT SIGNAL CONDITIONING MODULES

Over **200** plug-in signal conditioning modules are available to **suit almost any input signal, control, or data output**. Modules can be **easily inserted** through the rear of the meter without disassembly of the case or removal from the panel. Many modules are exclusively designed for the **Tiger 320 Series**, these and others can also be used with the **Leopard** and **Lynx** Family panel meters and bargraphs

Function	Module	Page
AC		
• AC Amps. Scaled RMS	IA04	3
• AC Amps. Scaled RMS	IA05	3
• AC Amps. True RMS	IA09	4, 15
• AC Amps. True RMS	IA11	4, 15
• AC Milliamps. Scaled RMS	IA03	3
• AC Milliamps. True RMS	IA08	3
• AC Millivolts. Scaled RMS	IA10	4
• AC Millivolts. True RMS	IA12	4
• AC Volts. Scaled RMS	IA01	3
• AC Volts. Scaled RMS	IA02	3
• AC Volts. True RMS	IA06	3, 14
• AC Volts. True RMS	IA07	3
COUNTER		
• Dual - UP/DOWN Counter	IDC1	5
• Quadrature Counter	IC02	4, 16
• Quadrature Counter w/dual SSRs	IC03	4, 16
• Smart Triple Input, Pressure Direct & Dual Counter	ISP1	11
• Universal Freq./ RPM / Up Down Counter	IF10	7, 20
DC		
• DC Amps	ID04	4
• DC Amps	ID09	4
• DC Milliamps	ID03	4
• DC Milliamps with Offset and 24V Exc.	ID07	4
• DC Millivolts	ID02	4
• DC Volts	ID01	4
• DC Volts with External Decimal Select	ID06	4
• DC Volts with External LIN Table Select	ID08	4
• DC Volts with Offset and 24V Exc.	ID05	4
• DC-Watts, 10V/50mV DC	IW03	13
• Dual - 3-wire RTD and DC V	IDT3	7
• Dual Ch. Univ. Process 2V/10V/20V/200V/2mA/Cust.	IDP4	5
• Dual DC Milliamps	IDD3	5
• Dual DC Millivolts	IDD2	5
• Dual - DC mV and 4 to 20mA	IDD6	5
• Dual - DC V and 4 to 20mA	IDD5	5
• Dual - DC V and DC mV	IDD4	5
• Dual DC Volts	IDD1	5
• Dual - Thermocouple and DC mV	IDT5	7
• Dual - Thermocouple and DC V	IDT4	7
• Process Input with Offset and 24V Exc (1-5VDC)	IP03	8
• Process + 3 Digital Inputs	IP10	9
• Quad DC mV	IQD2	9
• Quad DC Volts	IQD1	9
• Quad - Thermocouple / DC V / DC V / Frequency	IQT5	9
• Smart DC Volts, 16 bit, 1 to 800 Hz update rates	ISD1*	10, 26
• Smart DC Volts, 16 bit, 1 to 960 Hz update rates	ISD2**	10, 26
• Smart DC Volts, 16 bit, 1 to 800 Hz w/dual SSRs	ISD3*	10, 26
• Smart DC Volts, 16 bit, 1 to 960 Hz w/dual SSRs	ISD4**	10, 26
• Smart DC Volts, High Res & Acc, 24 bit 1-400Hz	ISD5*	10, 27
• Smart DC Volts, High Res & Acc, 24 bit 1-480Hz	ISD6**	10, 27
• Smart DC V, High Res & Acc, 1-400Hz w/dual SSRs	ISD7*	10, 27
• Smart DC V, High Res & Acc, 1-480Hz w/dual SSRs	ISD8**	10, 27
• Smart Dual 3-wire Potentiometer (50 Hz)	ISR3*	11, 33
• Smart Dual 3-wire Potentiometer (60 Hz)	ISR4**	11, 33
• Smart Dual Input DC Volts, 16 bit, 1-20Hz update	ISDA*	10, 29
• Smart Dual Input DC Volts, 16 bit, 1-20Hz update	ISDB**	10, 29
• Smart Dual Input, Load Cell and RTD	ISSB	11, 38
• Triple DC mV, 50mV DC	ITD2	12
• Triple DC Volts, 2V DC	ITD1	12
• Triple - T/C, DC mV and DC mV	ITT6	13
• Triple - T/C, DC Volts and DC mV	ITT9	13
• Triple - T/C, DC Volts and DC Volts	ITT7	13
• Triple - T/C, T/C and DC mV	ITT5	13
• Triple - T/C, T/C and DC V	ITT3	13
• Universal Process Input	IP07	9
• Universal Process Input with AutoCal	IP08	8
DUAL INPUTS		
• Dual - 3-wire RTD and DC V	IDT3	7
• Dual - 3-Wire RTD and 4 to 20mA	IDP2	5
• Dual DC Milliamps	IDD3	5
• Dual DC Millivolts	IDD2	5
• Dual - DC mV and 4 to 20mA	IDD6	5
• Dual - DC V and 4 to 20mA	IDD5	5
• Dual - DC V and DC mV	IDD4	5
• Dual - Strain Gage and Frequency	IDS3	6
• Dual DC Volts	IDD1	5
• Dual Direct Pressure (Absolute or Differential/Gage)	IGYY	8, 24
• Dual Frequency	IDF2	5
• Dual Pressure Input	IDS2	6
• Dual Process Loop	IDP1	5
• Dual Resistance Input	IDR1	6
• Dual RTD Input	IDT2	6
• Dual Smart Pressure/Load Cell, 16 bit	ISS5*	11, 36
• Dual Smart Pressure/Load Cell, 16 bit	ISS6**	11, 36
• Dual Strain Gage Input	IDS1	6
• Dual Thermocouple	IDT1	6
• Dual - Thermocouple and 4 to 20mA	IDP3	5
• Dual - Thermocouple and DC mV	IDT5	7
• Dual - Thermocouple and DC V	IDT4	7
• Dual - Thermocouple and Load Cell	IDT6	7, 17
• Dual UP/DOWN Counter	IDC1	5
• Smart Dual 3-wire Potentiometer (50 Hz)	ISR3*	11, 33
• Smart Dual 3-wire Potentiometer (60 Hz)	ISR4**	11, 33
• Smart Dual Input, Load Cell and Process (4-20mA)	ISS9	11
• Smart Dual Input DC Volts, 16 bit, 1-20Hz update	ISDA*	10, 29
• Smart Dual Input DC Volts, 16 bit, 1-20Hz update	ISDB**	10, 29
• Smart Dual Photo Diode Input	ISSE	11
• Smart Dual RTD (50 Hz)	IST5*	12, 40
• Smart Dual RTD (60 Hz)	IST6**	12, 40
4 TO 20mA		
• Dual - 3-Wire RTD and 4 to 20mA	IDP2	5
• Dual - DC mV and 4 to 20mA	IDD6	5
• Dual - DC V and 4 to 20mA	IDD5	5
• Dual Process Loop	IDP1	5
• Dual - Thermocouple and 4 to 20mA	IDP3	5
• Process Loop. 4 to 20mA	IP01	8
• Process Loop. 4 to 20mA (0-100.00) w/ Ext. Lin Table	IP09	9
• Process Loop. 4 to 20mA w/24V DC Exc. and AutoCal	IP06	8
• Process Loop. 4 to 20mA with 24V DC Exc.	IP02	8
• Quad 4 to 20mA	IQP1	8
• Smart Dual Input, Load Cell and Process (4-20mA)	ISS9	11
• Smart Dual Photo Diode Input	ISSE	11
• Triple 4 to 20mA	ITP1	12
• Triple - T/C, 4 to 20mA and 4 to 20mA	ITT8	13
• Triple - T/C, 4 to 20mA and DC mV	ITTA	13
• Triple - T/C, 4 to 20mA and DC Volts	ITTB	13
• Triple - T/C, 4-20mA and Frequency	ITTF	13
• Triple - T/C, T/C and 4 to 20mA	ITT4	13
FREQUENCY / RPM		
• Dual - Strain Gage and Frequency	IDS3	6
• Dual Frequency	IDF2	5
• Line Frequency (Leopard only)	IF08	8
• Line Frequency (Tiger only)	IF06	7
• Triple RTD / RTD / Frequency	ITTE	13
• Triple - T/C, 4-20mA and Frequency	ITTF	13
• Triple - T/C, Volts and Frequency	ITTG	13
• Universal Freq./ RPM / Up Down Counter	IF10	7, 20
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LVDT		
• Smart Dual LVDT (50 Hz)	ISL1*	10, 30
• Smart Dual LVDT (60 Hz)	ISL2**	10, 30
OXIDATION REDUCTION POTENTIAL		
• Oxidation Reduction Potential (ORP)	IOR1	8
pH		
• pH	IH01	8
• pH with Automatic Temperature Compensation	IH02	8
POTENTIOMETER		
• 3-wire Potentiometer 1KΩ min (0-F.S.)	IR02	9
• Linear Potentiometer 1KΩ min	IR03	9
• Smart Dual 3-wire Potentiometer (50 Hz)	ISR3*	11, 33
• Smart Dual 3-wire Potentiometer (60 Hz)	ISR4**	11, 33
• Smart Quad Potentiometer/Resistance	ISSA	11
• Smart Single 3-wire Potentiometer (50 Hz)	ISR1*	11, 32
• Smart Single 3-wire Potentiometer (60 Hz)	ISR2**	11, 32
PRESSURE		
• Direct Pressure with 2 Digital Inputs	IGYX	8, 22
• Dual Direct Pressure (Abs. or Differential/Gage)	IGYY	8, 24
• Dual Pressure Input	IDS2	6
• Dual Smart Pressure/Load Cell, 16 bit	ISS5*	11, 36
• Dual Smart Pressure/Load Cell, 16 bit	ISS6**	11, 36
• Pressure/Load Cell 20/2mV/V, 5/10V Exc 4-wire	ISI05	10
• Pressure/Load Cell Ext Exc., 20/2mV/V, 4-wire	ISI06	10
• Pressure/Load Cell Ext Exc. High Impedance	ISI07	10
• Pressure/Load Cell Ext Exc., 4/6-wire	ISI04	10
• Pressure/Load Cell with AutoCal, 4-wire	ISI03	10
• Pressure/Load Cell, 4/6-wire	ISI02	10
• Smart Pressure/Load Cell, Standard Res 16 bit	ISS1*	11, 34
• Smart Pressure/Load Cell, Standard Res 16 bit	ISS2**	11, 34
• Smart Pressure/Load Cell, High Res & Acc 24 bit	ISS3*	11, 35
• Smart Pressure/Load Cell, High Res & Acc 24 bit	ISS4**	11, 35
• Smart Quad Pressure/Load Cell (50 Hz)	ISS7*	11, 37
• Smart Quad Pressure/Load Cell (60 Hz)	ISS8**	11, 37
• Smart Triple Input, Pressure Direct & Dual Counter	ISP1	11
• Universal Direct Pressure	IGYZ	8, 25
PROCESS LOOP		
• Dual Process Loop	IDP1	5
• Process Loop. 4 to 20mA	IP01	8
• Process Loop. 4 to 20mA (0-100.00) w/ Ext. Lin Table	IP09	9
• Process Loop. 4 to 20mA w/24V DC Exc. and AutoCal	IP06	8
• Process Loop. 4 to 20mA with 24V DC Exc.	IP02	8
QUAD INPUTS		
• Quad 4 to 20mA	IQP1	9
• Quad DC mV	IQD2	9
• Quad DC Volts	IQD1	9
• Quad RTD Platinum 2 wire connection	IQT2	9
• Quad RTD Platinum 4 wire connection	IQT4	9
• Quad - Thermocouple / DC V / DC V / Frequency	IQT5	9
• Smart Quad Potentiometer/Resistance	ISSA	11
• Smart Quad Pressure/Load Cell (50 Hz)	ISS7*	11, 37
• Smart Quad Pressure/Load Cell (60 Hz)	ISS8**	11, 37
• Smart Quad Thermocouple (50 Hz)	IST3*	12
• Smart Quad Thermocouple (60 Hz)	IST4**	12
RESISTANCE		
• Dual Resistance Input	IDR1	6
• Resistance. 2/3/4-Wire	IR01	9
• Resistance 2KΩ (Leopard only)	IR04	9
• Resistance 2KΩ (Lynx only)	IR05	9
• Smart Quad Potentiometer/Resistance	ISSA	11
• Smart Voltage and Resistance Input	ISD9	10, 28
RTD		
• Dual - 3-wire RTD and DC V	IDT3	7
• Dual - 3-Wire RTD and 4 to 20mA	IDP2	5
• Dual RTD Input	IDT2	6
• Quad RTD Platinum 2 wire connection	IQT2	9
• Quad RTD Platinum 4 wire connection	IQT4	9
• RTD, 10Ω Copper 2/3/4-wire	IT13	12
• RTD, 100Ω Pt. 2/3/4-wire	IT02	12
• RTD, 100Ω Pt. 2/3/4-wire (-199.9 to 199.9°C)	IT14	12
• RTD, 100Ω Pt. 2/3/4-wire (-199.9 to 199.9°F)	IT05	12
• RTD, 100Ω Pt. 2/3/4-wire (-200 to 800°C)	IT03	12
• RTD, 100Ω Pt. 2/3/4-wire (-200 to 1470°F)	IT04	12
• RTD, 100Ω Pt. Select 3/4-wire, °C/°F, 1°/0.1°	IT11	12
• RTD, 120Ω Nickel 2/3/4-wire	IT12	12
• RTD, 1000Ω Pt. Select 3/4-wire, °C/°F, 1°/0.1°	IT15	12
• Smart Dual Input, Load Cell and RTD	ISSB	11, 38
• Smart Dual RTD (50 Hz)	IST5*	12, 40
• Smart Dual RTD (60 Hz)	IST6**	12, 40
• Smart 6 Input - 3 RTD, 2 Process and 1 Digital Input	IST1*	11
• Smart 6 Input - 3 RTD, 2 Process and 1 Digital Input	IST2**	11
• Triple RTD Platinum 100Ω RTD 4-wire connection	ITTC	13
• Triple RTD Platinum 100Ω RTD 2-wire connection	ITT2	13
• Triple - RTD / RTD / Frequency	ITTE	13
SINGLE PHASE POWER		
• Single Phase Power, 300V/1A	IW01	13, 41
• Single Phase Power, 300V/5A	IW02	13, 41
• Single Phase Power, 600V/1A	IW04	13, 41
• Single Phase Power, 600V/5A	IW05	13, 41
SMART MODULES		
• Dual Smart Pressure/Load Cell, 16 bit	ISS5*	11, 36
• Dual Smart Pressure/Load Cell, 16 bit	ISS6**	11, 36
• Smart DC Volts, 16 bit, 1 to 800 Hz update rates	ISD1*	10, 26
• Smart DC Volts, 16 bit, 1 to 960 Hz update rates	ISD2**	10, 26
• Smart DC Volts, 16 bit, 1 to 800 Hz w/dual SSRs	ISD3*	10, 26
• Smart DC Volts, 16 bit, 1 to 960 Hz w/dual SSRs	ISD4**	10, 26
• Smart DC Volts, High Res & Acc, 24 bit 1-400Hz	ISD5*	10, 27
• Smart DC Volts, High Res & Acc, 24 bit 1-480Hz	ISD6**	10, 27
• Smart DC V, High Res & Acc, 1-400Hz w/dual SSRs	ISD7*	10, 27
• Smart DC V, High Res & Acc, 1-480Hz w/dual SSRs	ISD8**	10, 27
• Smart Dual 3-wire Potentiometer (50 Hz)	ISR3*	11, 33
• Smart Dual 3-wire Potentiometer (60 Hz)	ISR4**	11, 33
• Smart Dual LVDT (50 Hz)	ISL1*	10, 30
• Smart Dual LVDT (60 Hz)	ISL2**	10, 30
• Smart Dual Photo Diode Input	ISSE	11
• Smart Dual RTD (50 Hz)	IST5*	12, 40
• Smart Dual RTD (60 Hz)	IST6**	12, 40
• Smart Single 3-wire Potentiometer (50 Hz)	ISR1*	11, 32
• Smart Single 3-wire Potentiometer (60 Hz)	ISR2**	11, 32
• Smart Dual Input, Load Cell and Process (4-20mA)	ISS9	11
• Smart Dual Input, Load Cell and RTD	ISSB	11, 38
• Smart Dual Input DC Volts, 16 bit, 1-20Hz update	ISDA*	10, 29
• Smart Dual Input DC Volts, 16 bit, 1-20Hz update	ISDB**	10, 29
• Smart Magnetostrictive Input	ISM1	10, 31
• Smart Pressure/Load Cell, Standard Res 16 bit	ISS1*	11, 34
• Smart Pressure/Load Cell, Standard Res 16 bit	ISS2**	11, 34
• Smart Pressure/Load Cell, High Res & Acc 24 bit	ISS3*	11, 35
• Smart Pressure/Load Cell, High Res & Acc 24 bit	ISS4**	11, 35
• Smart Quad Potentiometer/Resistance	ISSA	11
• Smart Quad Pressure/Load Cell (50 Hz)	ISS7*	11, 37
• Smart Quad Pressure/Load Cell (60 Hz)	ISS8**	11, 37
• Smart Quad Thermocouple (50 Hz)	IST3*	12
• Smart Quad Thermocouple (60 Hz)	IST4**	12
• Smart 6 Input - 3 RTD, 2 Process and 1 Digital Input	IST1*	11
• Smart 6 Input - 3 RTD, 2 Process and 1 Digital Input	IST2**	11
• Smart Triple Input, Load Cell and Two Digital Inputs	ISSC*	11, 39
• Smart Triple Input, Load Cell and Two Digital Inputs	ISSD**	11, 39
• Smart Triple Input, Pressure Direct & Dual Counter	ISP1	11
• Smart Voltage and Resistance Input	ISD9	10, 28
STRAIN GAGE		
• Dual - Strain Gage and Frequency	IDS3	6
• Dual Strain Gage Input	IDS1	6
• Strain Gage	IS01	10
THERMOCOUPLE		
• Dual Thermocouple	IDT1	6
• Dual - Thermocouple and 4 to 20mA	IDP3	5
• Dual - Thermocouple and DC mV	IDT5	7
• Dual - Thermocouple and DC V	IDT4	7
• Dual - Thermocouple and Load Cell	IDT6	7, 17
• Quad - Thermocouple / DC V / DC V / Frequency	IQT5	9
• Smart Quad Thermocouple (50 Hz)	IST3*	12
• Smart Quad Thermocouple (60 Hz)	IST4**	12
• Thermocouple	IT01	12
• Thermocouple, J/K/R/T, Selectable °C/°F, 1°/0.1°	IT10	12
• Triple - T/C, 4 to 20mA and 4 to 20mA	ITT8	13
• Triple - T/C, 4 to 20mA and DC mV	ITTA	13
• Triple - T/C, 4 to 20mA and DC Volts	ITTB	13
• Triple - T/C, 4-20mA and Frequency	ITTF	13
• Triple - T/C, DC mV and DC mV	ITT6	13
• Triple - T/C, DC Volts and DC mV	ITT9	13
• Triple - T/C, DC Volts and DC Volts	ITT7	13
• Triple - T/C, T/C and 4 to 20mA	ITT4	13
• Triple - T/C, T/C and DC mV	ITT5	13
• Triple - T/C, T/C and DC V	ITT3	13
• Triple - T/C, Volts and Frequency	ITTG	13
• Triple Thermocouple	ITT1	12
TRIPLE INPUTS		
• Smart Triple Input, Load Cell and Two Digital Inputs	ISSC*	11, 39
• Smart Triple Input, Load Cell and Two Digital Inputs	ISSD**	11, 39
• Smart Triple Input, Pressure Direct & Dual Counter	ISP1	11
• Triple 4 to 20mA	ITP1	12
• Triple - DC mV, 2V DC	ITD2	12
• Triple - DC Volts, 2V DC	ITD1	12
• Triple RTD Platinum 100Ω RTD 4-wire connection	ITTC	13
• Triple RTD Platinum 100Ω RTD 2-wire connection	ITT2	13
• Triple - RTD / RTD / Frequency	ITTE	13
• Triple - T/C, 4 to 20mA and 4 to 20mA	ITT8	13
• Triple - T/C, 4 to 20mA and DC mV	ITTA	13
• Triple - T/C, 4 to 20mA and DC Volts	ITTB	13
• Triple - T/C, 4-20mA and Frequency	ITTF	13
• Triple - T/C, DC mV and DC mV	ITT6	13
• Triple - T/C, DC Volts and DC mV	ITT9	13
• Triple - T/C, DC Volts and DC Volts	ITT7	13
• Triple - T/C, T/C and 4 to 20mA	ITT4	13
• Triple - T/C, T/C and DC mV	ITT5	13
• Triple - T/C, T/C and DC V	ITT3	13
• Triple - T/C, Volts and Frequency	ITTG	13
• Triple Thermocouple	ITT1	12

***Optimized for 50 Hz rejection.**
****Optimized for 60 Hz rejection.**

INPUT MODULE PRICE LIST

Unless otherwise specified Texmate will ship all modules precalibrated with factory preselected ranges and/or scalings as shown in **BOLD** type

IA01 . . .AC-Volts Scaled RMS, 200/**600V** AC $35
IA02 . . .AC-Volts Scaled RMS, 200mV/**2V**/20V AC $35
IA03 . . .AC-mA Scaled RMS, 2/**20**/200mA AC $40
IA04 . . .AC-Amps Scaled RMS, **0-1 Amp AC (0-100.00)** $40
IA05 . . .AC-Amps Scaled RMS, **0-5 Amp AC (0-100.00)** $40
IA06 . . .AC-Volts True RMS, 200/**600V** AC $55
IA07 . . .AC-Volts True RMS, 200mV/**2V**/20V AC $55
IA08 . . .AC-mA True RMS, 2/**20**/200mA AC $55
IA09 . . .AC-Amps True RMS, **0-1 Amp AC (0-100.00)** $55
IA10 . . .AC-Millivolt, Scaled RMS, **100mV AC** $55
IA11 . . .AC-Amps True RMS, **0-5 Amp AC (0-100.00)** $55
IA12 . . .AC-Millivolt, True RMS, **100mV AC** $55
IC02 . . .Quadrature Counter $65
IC03 . . .Quadrature Counter with Dual SSRs $105
ID01 . . .DC-Volts, **2**/20/200V/Custom w/24V DC Exc $25
ID02 . . .DC-Millivolt, 20/50/**100**/200mV DC w/24V DC Exc $35
ID03 . . .DC-Milliamp, 2/**20**/200mA DC w/24V DC Exc $25
ID04 . . .DC-Amps, **5A DC** $50
ID05 . . .DC-Volts **2**/20/200/Custom V DC w/Offset and 24V Exc. $45
ID06 . . .DC-Volts **2**/20/200/Custom V DC w/Ext.Decimal Select $40
ID07 . . .DC-Milliamp, 2/**20**/200mA DC w/Offset and 24V Exc $35
ID08 . . .DC-Volts, **2**/20/200/Custom V DC w/Ext.LIN Table Select $40
ID09 . . .DC-Amps, **1A DC** $50
IDC1 . . .Dual Input, Counter $75
IDD1 . . .Dual Input, Volts DC/Volts DC, **2V DC** $65
IDD2 . . .Dual Input DC-Millivolts, **50mV DC(100.00)** $65
IDD3 . . .Dual Input DC-Milliamps, **2mA DC** $65
IDD4 . . .Dual Input, Volts/millivolts **2V/50mV DC(100.00)** $65
IDD5 . . .Dual Input DC Volts and 4-20 mA $65
IDD6 . . .Dual Input DC mV and 4-20 mA $65
IDF2 . . .Dual Frequency $85
IDP1 . . .Dual Process Loop Input,**4-20mA (0-100.00)** $65
IDP2 . . .Dual Input, 3-wire RTD / **4-20mA (0-100.00)** $65
IDP3 . . .Dual Input, K/R/S/T/J Thermocouple / **4-20mA(0-100.00)** $65
IDP4 . . .Dual Universal Process **2V**/5V/10V/20V/200V/2mA/20mA/Custom $75
IDR1 . . .Dual Resistance Input, 0.2/**2**/20KΩ $65
IDS1 . . .Dual Strain Gage Input,**4 wire 2mV/V** $125
IDS2 . . .Dual Pressure Input,**4 wire 2mV/V** $125
IDS3 . . .Dual Input, Strain Gage and Frequency $95
IDT1 . . .Dual Thermocouple Input **J**/K/R/T $75
IDT2 . . .Dual RTD Input, 2- and 3-wire, **100Ω Pt** $65
IDT3 . . .Dual Input, 3-wire RTD / **Volts 2V DC** $65
IDT4 . . .Dual Input, Thermocouple / Volts 2V DC $65
IDT5 . . .Dual Input, K/R/S/T/J Thermocouple / DC-Millivolts, 50mV DC $65
IDT6 . . .Dual Input, Thermocouple and Load Cell $95
IF02 . . .Line Frequency, 50-500VAC, 199.9Hz, or optional 400Hz $45
IF05 . . .Frequency 2mV/5V with Excitation $45
IF06 . . .Line Frequency, 50-500VAC $55
IF08 . . .Line Frequency $45
IF10 . . .Universal Frequency / RPM / UP DOWN Counter $55
IGYX* . .Direct Pressure (Abs. or Differential/Gage) with 2 Digital Inputs $125
IGYY* . .Dual Direct Pressure (Absolute or Differential/Gage) $175
IGYZ* . .Universal Direct Pressure $100
***View the IG- Ordering Codes on page 8 to determine the value for X, Y & Z (IGAA to IGKZ)**
IH01 . . .pH Indication w/ Manual Temperature Compensation $75
IH02 . . .pH Indication w/ Automatic Temperature Compensation $95
IOR1 . . .Oxidation Reduction Potential (ORP) $75
IP01 . . .Process Loop, **4-20mA (0-100.00)** $35
IP02 . . .Process Loop, **4-20mA(0-100.0)** w/24VDC Exc $45
IP03 . . .Process Input, **1-5V DC(0-100.00)** w/Offset, 24V Exc $45
IP06 . . .Process Loop, **4-20mA(0-100.00)** w/24VDC Exc and Autocal $45
IP07 . . .Universal Process 2V/5V/**10V**/20V/200V/2mA/20mA/Custom $30
IP08 . . .Universal Process 2V/5V/**10V**/20V/200V/2mA/20mA/Custom w/Autocal . . . $55
IP09 . . .Process Loop, **4-20mA (0-100.00)** w/ External Lin Table select $40
IP10 . . .Process + 3 Digital Inputs $75
IPT1 . . .Prototype Board for Custom Design $15
IQD1 . . .Quad DC Volts, 2V DC $125
IQD2 . . .Quad DC-Millivolts, 50mV DC(100.00) $125
IQP1 . . .Quad Process Loop,4-20mA (0-100.00) $125
IQT2 . . .Quad RTD Input, 2-Wire, 100Ω Pt $125
IQT4 . . .Quad RTD Input, 4-wire, 100Ω Pt $125
IQT5 . . .Quad - Thermocouple / V / V / Frequency $125
IR01 . . .Resistance, 2-, **3-**, or 4-Wire, 200Ω/**2K**Ω/20KΩ $35
IR02 . . .3-Wire Potentiometer 1KΩ min (0-F.S.) $40
IR03 . . .Linear Potentiometer, 3-wire, 1KΩ min $40
IR04 . . .Resistance 2KΩ (Lynx) $40
IR05 . . .Resistance 2KΩ (Leopard) $40
ISD1* . . .Smart DCV, High Speed 16 bit, 1, 10, 50, 200, 400, 800 Hz update rates . . $65
ISD2** . . .Smart DCV, High Speed 16 bit, 1, 10, 60, 240, 480, 960 Hz update rates . . $65
ISD3* . . .Smart DCV, High Speed 16 bit, 1Hz to 800Hz w/dual isolated SSRs $105
ISD4** . . .Smart DCV, High Speed 16 bit, 1Hz to 960Hz w/dual isolated SSRs $105
ISD5* . . .Smart DCV, Hi Resolution & Accuracy 24 bit (1 million counts) 1-400Hz . . $175
ISD6** . . .Smart DCV, Hi Resolution & Accuracy 24 bit (1 million counts) 1-480Hz . . $175
ISD7* . . .Smart DCV, Hi Resolution & Accuracy 24 bit 1-400Hz w/dual isolated SSRs . . $215
ISD8** . . .Smart DCV, Hi Resolution & Accuracy 24 bit 1-480Hz w/dual isolated SSRs . . $215
ISD9 . . .Smart Voltage Resistance $125
ISDA* . . .Smart Dual Input DC Volts, 16 bit, 1Hz to 20Hz update (50 Hz rejection) . . . $100
ISDB** . . .Smart Dual Input DC Volts, 16 bit, 1Hz to 20Hz update (60 Hz rejection) . . . $100
ISL1* . . .Smart Dual LVDT (50 Hz rejection) $195
ISL2** . . .Smart Dual LVDT (60 Hz rejection) $195
ISM1 . . .Smart Magnetostrictive $125
IS01 . . .Strain Gage 5/10VDC Exc., 20/**2mV/V, 4**/6-wire $55
IS02 . . .Pressure 5/10VDC Exc., 20/**2mV/V, 4-** or 6-wire $55
IS03 . . .Pressure 5/10VDC Exc., 20/**2mV/V, 4**/6-wire w/Autocal $65
IS04 . . .Pressure Ext Exc., 20/2mV/V, **4-** or 6–wire $45
IS05 . . .Pressure/Load Cell 20/2mV/V, 5/10V Exc 4-wire $55
IS06 . . .Pressure/Load Cell Ext Exc., 20/2mV/V, 4-wire $55
IS07 . . .Pressure 20/2mV/V with High Impedance and External Excitation $65
ISP1 . . .Smart Triple Input, Pressure Direct and Dual Counter (Frequency/Counter) . . $150
ISR1* . . .Smart Single 3-wire Potentiometer (50 Hz) $105
ISR2** . . .Smart Single 3-wire Potentiometer (60 Hz) $105
ISR3* . . .Smart Dual 3-wire Potentiometer (50 Hz) $125
ISR4** . . .Smart Dual 3-wire Potentiometer (60 Hz) $125
ISS1* . . .Smart Pressure/Load Cell. Standard Resolution 16 bit (50 Hz rejection) . . $75
ISS2** . . .Smart Pressure/Load Cell. Standard Resolution 16 bit (60 Hz rejection) . . $75
ISS3* . . .Smart Pressure/Load Cell. Hi Res & Accuracy 24 bit (50 Hz rejection) . . . $150
ISS4** . . .Smart Pressure/Load Cell. Hi Res & Accuracy 24 bit (60 Hz rejection) . . . $150
ISS5* . . .Dual Smart Pressure/Load Cell. Standard Resolution 16 bit (50 Hz) $125
ISS6** . . .Dual Smart Pressure/Load Cell. Standard Resolution 16 bit (60 Hz) $125
ISS7* . . .Smart Quad Pressure/Load Cell (50 Hz) $150
ISS8** . . .Smart Quad Pressure/Load Cell (60 Hz) $150
ISS9 . . .Smart Dual Input, Load Cell and Process (4-20mA) $95
ISSA . . .Smart Quad Potentiometer/Resistance $150
ISSB . . .Smart Dual Input, Load Cell and RTD $95
ISSC* . . .Smart Triple Input, Load Cell and two Digital Inputs (Frequency/Counter) . . $125
ISSD** . . .Smart Triple Input, Load Cell and two Digital Inputs (Frequency/Counter) . . $125
ISSE . . .Smart Dual Photo Diode Input $125
IST1* . . .Smart Six Inputs, 3 Pt 100 RTD, 2 Process and 1 Digital Input (50 Hz) $150
IST2** . . .Smart Six Inputs, 3 Pt 100 RTD, 2 Process and 1 Digital Input (60 Hz) $150
IST3* . . .Smart Quad Thermocouple (50 Hz) $150
IST4** . . .Smart Quad Thermocouple (60 Hz) $150
IST5* . . .Smart Dual RTD (50 Hz) $125
IST6** . . .Smart Dual RTD (60 Hz) $125
IT01 . . .Thermocouple Input, J/**K**/R/S/T/B/N $30
IT02 . . .RTD, 100Ω Pt. 2-, **3-**, or 4-wire $35
IT03 . . .RTD, 100Ω Pt. 2/3/4-wire (-200 to 800˚C) $40
IT04 . . .RTD, 100Ω Pt. 2/3/4-wire (-200 to 1470˚F) $40
IT05 . . .RTD, 100Ω Pt. 2/3/4-wire (-199.9 to 199.9˚F) $40
IT06 . . .Thermocouple, J Type **(0-1400 °F)** $40
IT07 . . .Thermocouple, K Type **(0-1999°F)** $40
IT08 . . .Thermocouple, J Type **(0-760 °C)** $40
IT09 . . .Thermocouple, K Type **(0-1260°C)** $40
IT10 . . .Thermocouple, J/**K**/R/T, Selectable °C/**°F**, **1°**/0.1° $35
IT11 . . .RTD, 100Ω Pt. Selectable 3/4-wire,°C/°F, 1°/0.1°, 385/392 . . . . . $35
IT12 . . .RTD, 120Ω Nickel 2/**3**/4-wire $35
IT13 . . .RTD, 10Ω Copper 2/**3**/4-wire $35
IT14 . . .RTD, 100Ω Pt. 2/3/4-wire (-199.9 to 199.9˚C) $40
IT15 . . .RTD, 1000Ω Pt. Selectable 3/4-wire,°C/°F, 1°/0.1°, 385/392 . . . . . $35
ITD1 . . .Triple DC Volts, 2V DC $95
ITD2 . . .Triple DC-Millivolts, 50mV DC(100.00) $95
ITP1 . . .Triple Process Loop,4-20mA (0-100.00) $95
ITT1 . . .Triple Thermocouple $95
ITT2 . . .Triple RTD Input, 2-wire, 100Ω Pt $95
ITT3 . . .Triple Input, Dual Thermocouple J/K/R/S/T/B/N and DCV 2V $95
ITT4 . . .Triple Input. Dual Thermocouple J/K/R/S/T/B/N and 4 to 20mA $95
ITT5 . . .Triple Input. Dual Thermocouple J/K/R/S/T/B/N and DC MV $95
ITT6 . . .Triple Input. Thermocouple J/K/R/S/T/B/N and Dual DC MV $95
ITT7 . . .Triple Input. Thermocouple J/K/R/S/T/B/N and Dual DC Volts $95
ITT8 . . .Triple Input. Thermocouple J/K/R/S/T/B/N and Dual 4-20mA $95
ITT9 . . .Triple Input. Thermocouple J/K/R/S/T/B/N and DC Volt and DC MV $95
ITTA . . .Triple Input. Thermocouple J/K/R/S/T/B/N and 4-20mA and DC MV $95
ITTB . . .Triple Input. Thermocouple J/K/R/S/T/B/N and 4-20mA and DC Volt $95
ITTC . . .Triple RTD Input, 4-Wire, 100Ω Pt $95
ITTE . . .Triple - RTD / RTD / Frequency $125
ITTF . . .Triple Input, Thermocouple / 4-20mA / Frequency $95
ITTG . . .Triple Input, Thermocouple / V / Frequency $95
IW01 . . .Single Phase Power (Watts, V, A, Hz, PF, Whr) **300V/1A,** 600V/1A $75
IW02 . . .Single Phase Power (Watts, V, A, Hz, PF, Whr) **300V/5A,** 600V/5A $75
IW03 . . .DC-Watts, **200V DC/50mV DC** from Shunt **(0-100.00)** $75
IW04 . . .Single Phase Power, **600V**/1A $75
IW05 . . .Single Phase Power, **600V**/5A $75
***Optimized for 50 Hz rejection. **Optimized for 60 Hz rejection.**

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I-Series Input Signal Conditioning Modules

Many input modules are available and others are constantly being developed. Check with your local distributor or see Texmate's web site at www.texmate.com for updated information.

Pre calibrated **I-Series Input Modules**, that have span or zero potentiometers, **can be interchanged between any I-Series compatible meter,** without recalibration, because all of the analog scaling and reference circuitry is self-contained within the module. Where appropriate, all the standard ranges are designed to be header selectable by the user, and Texmate's unique SPAN ADJUST Header facilitates **scaling to almost any required engineering unit.** See Input Module Component Glossary on page 42 for more information.

Unless otherwise specified Texmate will ship all modules pre calibrated with factory preselected ranges and/or scaling as shown in **BOLD** type. Other pre calibrated standard ranges or custom ranges may be ordered. Factory installed custom scaling and other custom options are also available. Unless otherwise specified, the accuracy of calibration is ±0.05% of reading + 2 digits

Symbols Indicate Module Compatibility Within Meter Families		
TIGER Family	TIGER Family	TIGER Family
LEOPARD Family	LEOPARD Family	LEOPARD Family
LYNX Family	LYNX Family	LYNX Family
ALL MODELS	SOME MODELS	MODEL SPECIFIC

* TIGER IT03

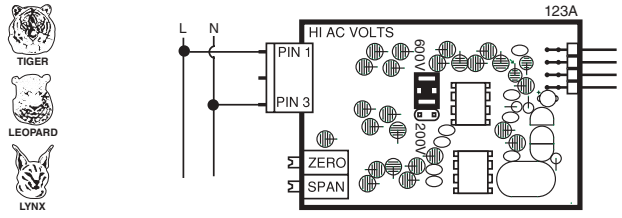
*A module code shown below a compatibility symbol indicates another module is available, similar in function, which may be more suited for use with that family.

** LYNX FX-B101Q

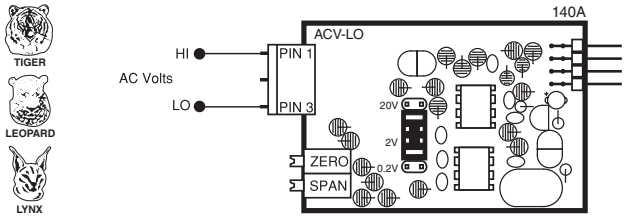
**Those models which are compatible are listed below the Model Specific Symbol.

Indicates a SMART MODULE.
Smart Modules incorporate their own microprocessors and/or A/D converters. They communicate digitally with the Tiger 320 Operating System. Some also have their own high speed SSR outputs

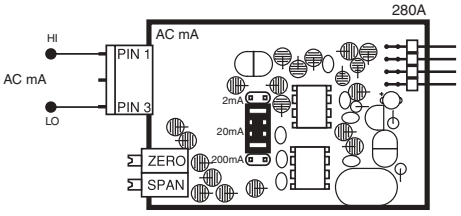
IA01: AC Volts Scaled RMS, 200/**600V** AC



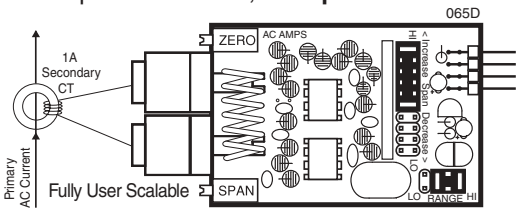
IA02: AC Volts Scaled RMS, 200mV/**2V**/20V AC



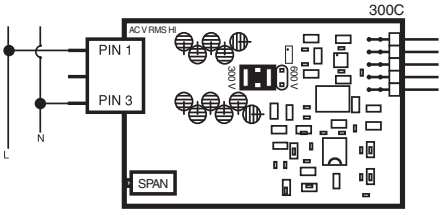
IA03: AC Milliamps Scaled RMS, 2/**20**/200mA AC



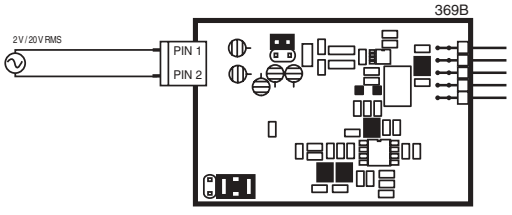
IA04: AC Amps Scaled RMS, **1 Amp AC**
IA05: AC Amps Scaled RMS, **5 Amp AC**



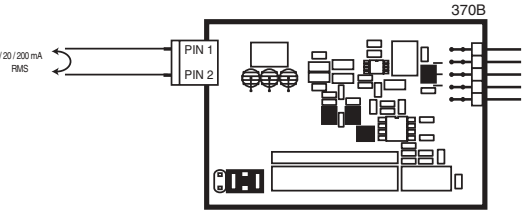
IA06: AC Volts True RMS, **300**/600V AC
Also see spec sheet on page 14.



IA07: AC Volts True RMS, 200mV/**2V**/20V AC

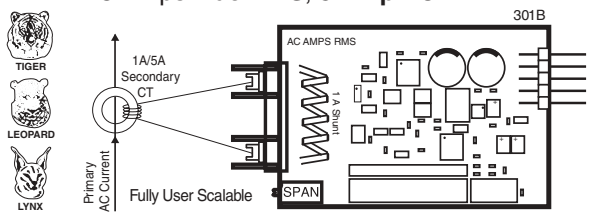


IA08: AC Milliamps True RMS, 2/**20**/200mA AC

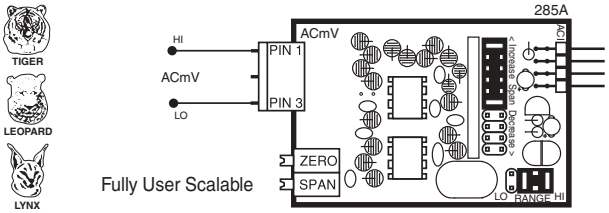


IA09: AC Amps True RMS, **1 Amp AC**
IA11: AC Amps True RMS, **5 Amp AC**

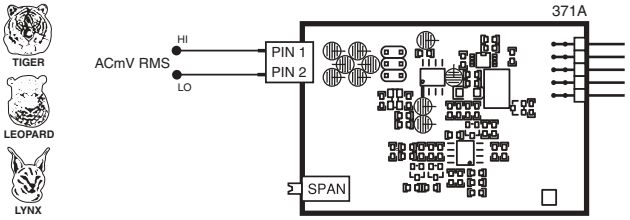
Also see spec sheet on page 15.



IA10: AC Millivolts, Scaled RMS, **100mV AC**

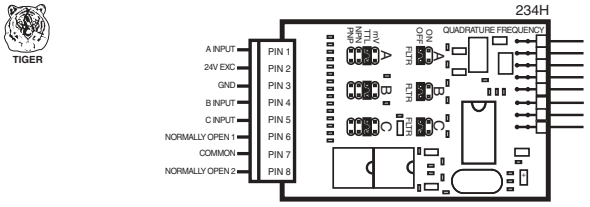


IA12: AC Millivolt RMS Sigma Delta

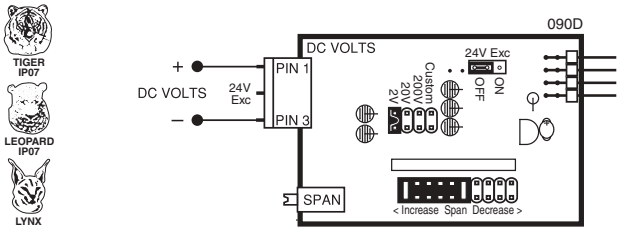


IC02: Quadrature Counter
IC03: Quadrature Counter w/dual SSRs

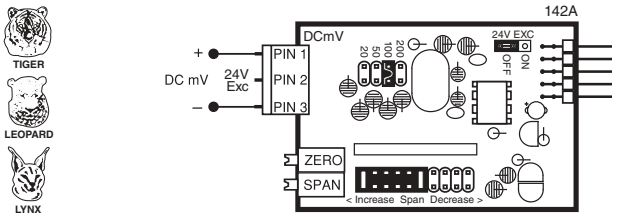
Also see spec sheet on page 16.



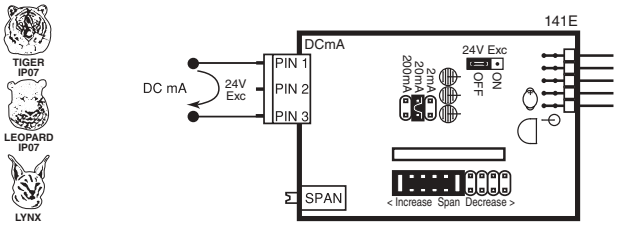
ID01: DC Volts, **2**/20/200V/Custom w/24V DC Exc



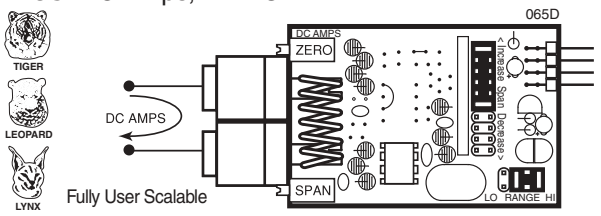
ID02: DC Millivolts, 20/50/**100**/200mV DC w/24V DC Exc



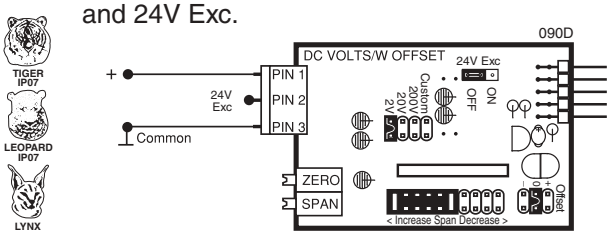
ID03: DC Milliamps, 2/**20**/200mA DC w/24V DC Exc



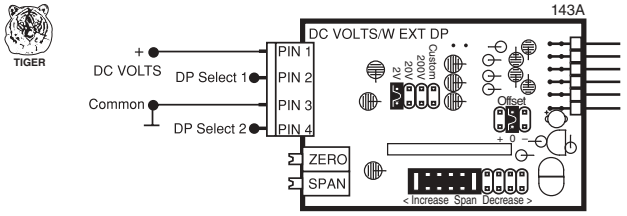
ID04: DC Amps, **5A DC**
ID09: DC Amps, **1A DC**



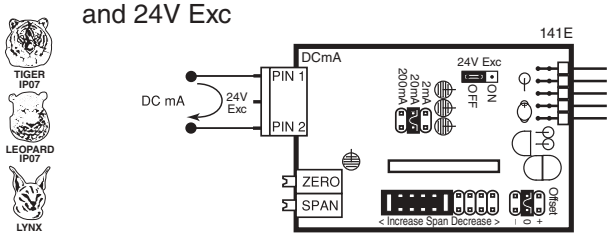
ID05: DC Volts **2**/20/200/Custom V DC with Offset and 24V Exc.



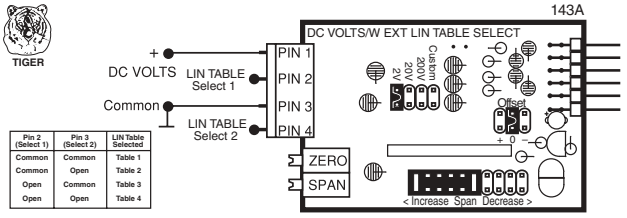
ID06: DC Volts **2**/20/200/Custom V DC with External Decimal Select



ID07: DC Milliamps, 2/**20**/200mA DC with Offset and 24V Exc



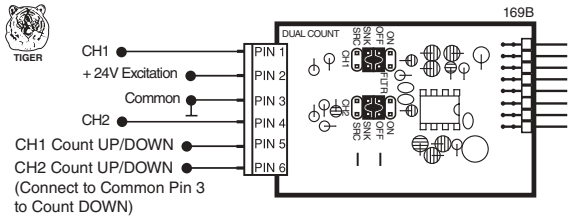
ID08: DC Volts, **2**/20/200/Custom V DC with External LIN Table Select



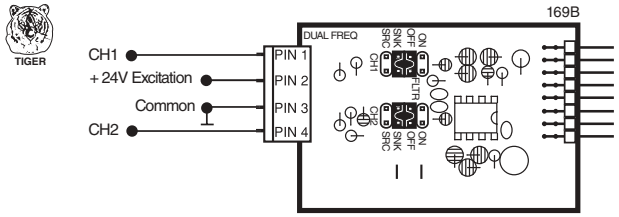
Pin 2 (Select 1)	Pin 3 (Select 2)	LIN Table Selected
Common	Common	Table 1
Common	Open	Table 2
Open	Common	Table 3
Open	Open	Table 4

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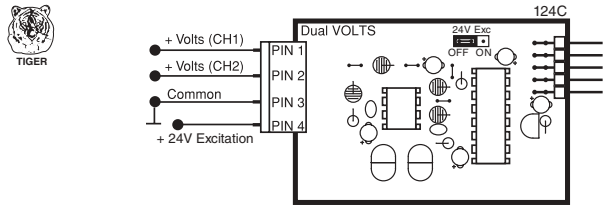
IDC1: Dual UP/DOWN Counter



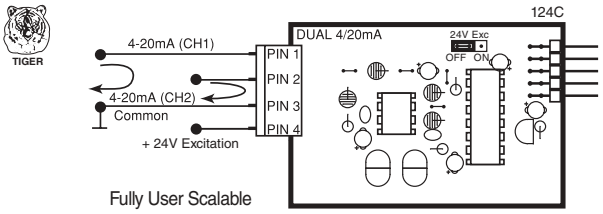
IDF2: Dual Frequency



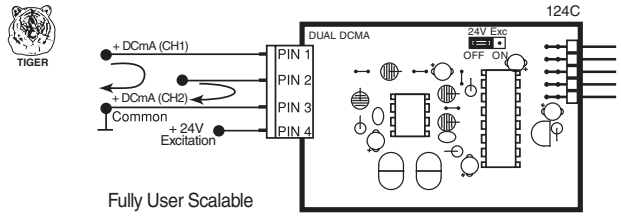
IDD1: Dual DC Volts, **2V DC**
IDD2: Dual DC Millivolts, **50mV DC**



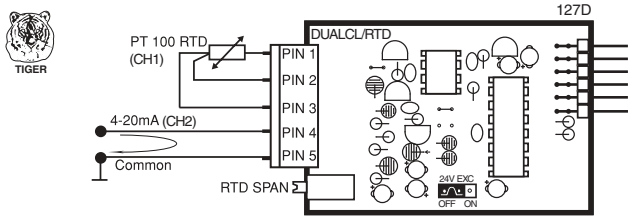
IDP1: Dual Process Loop, **4-20mA**



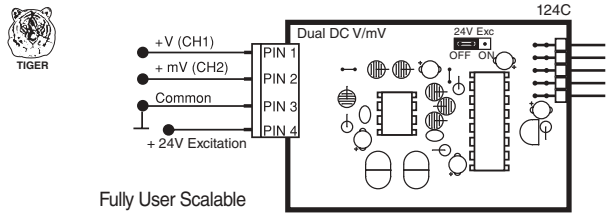
IDD3: Dual DC Milliamps, **2mA DC**



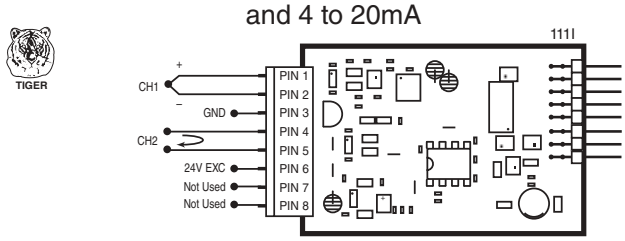
IDP2: Dual Input, **3-wire RTD** and **4-20mA**



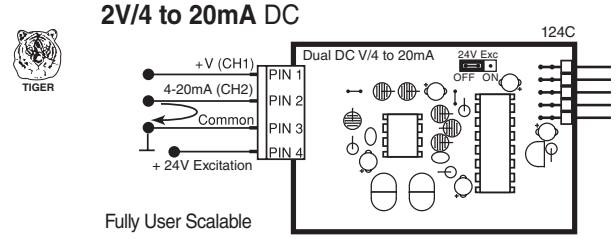
IDD4: Dual Input, DCV and DCmV **2V/50mV** DC



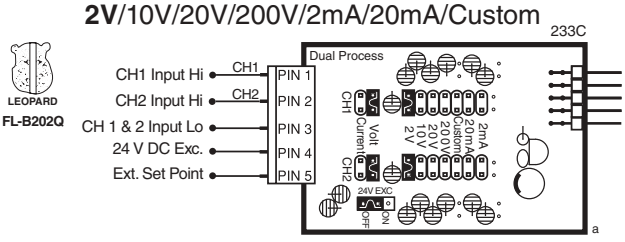
IDP3: Dual Input- Thermocouple (J/**K**/R/S/T/B/N) and 4 to 20mA



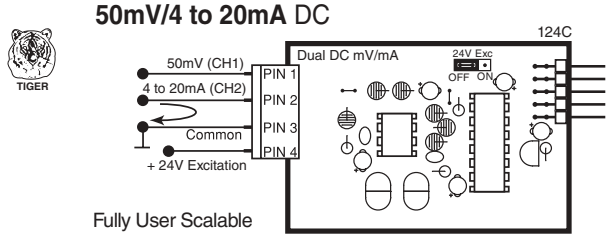
IDD5: Dual Input, DCV and 4 to 20mA **2V/4 to 20mA** DC



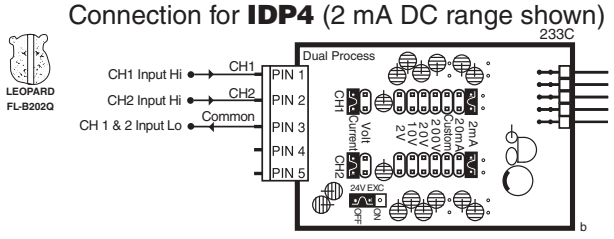
IDP4: Dual Channel Universal Process **2V**/10V/20V/200V/2mA/20mA/Custom



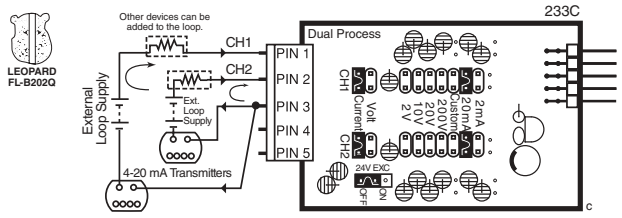
IDD6: Dual Input, DC mV and 4 to 20mA **50mV/4 to 20mA** DC



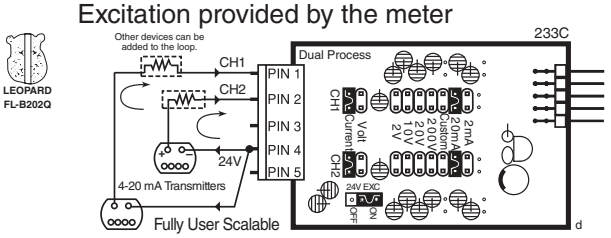
Dual Channel DC mA **2 mA**/20 mA/Custom Connection for **IDP4** (2 mA DC range shown)



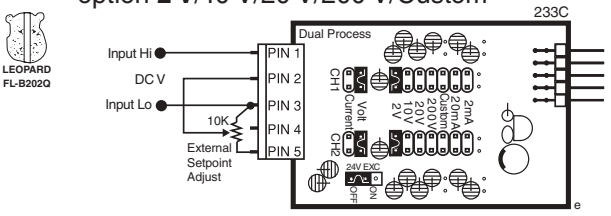
Dual 4-20 mA Connection for **IDP4**



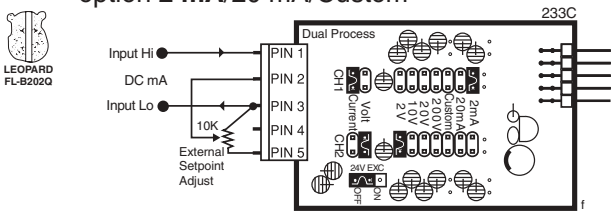
Dual Channel 4-20 mA Connection for **IDP4**
Excitation provided by the meter



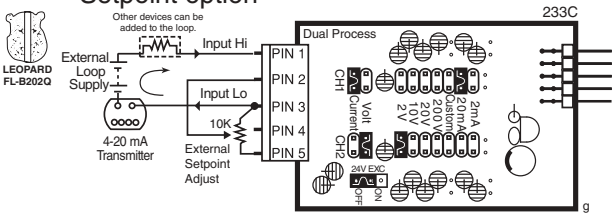
DC Volt Connection for **IDP4** with External Setpoint
option **2 V**/10 V/20 V/200 V/Custom



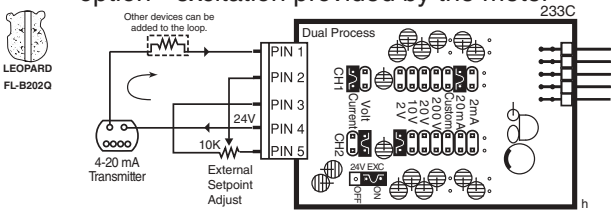
DC mA Connection for **IDP4** with External Setpoint
option **2 mA**/20 mA/Custom



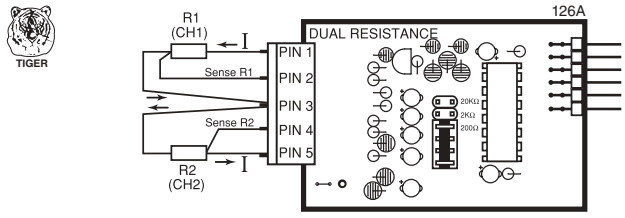
4-20 mA Connection for **IDP4** with External
Setpoint option



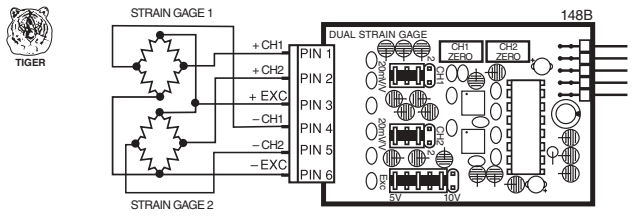
4-20 mA Connection for **IDP4** with External Setpoint
option - excitation provided by the meter



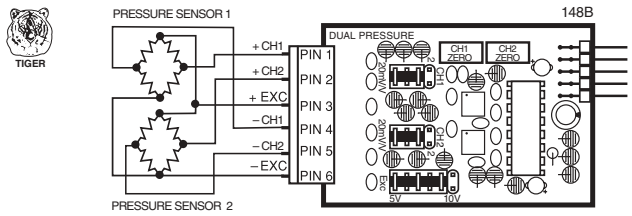
IDR1: Dual Resistance Input, 0.2/**2**/20KΩ



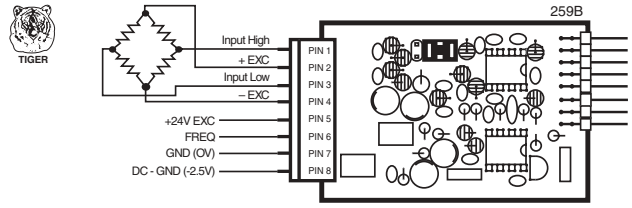
IDS1: Dual Strain Gage Input, **4 wire 2mV/V**, 20mV/V



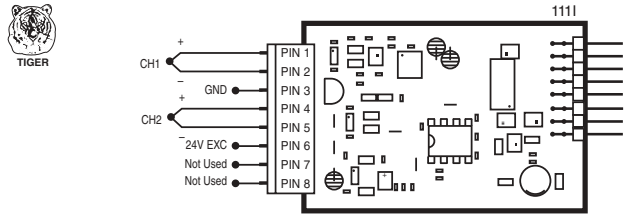
IDS2: Dual Pressure Input, **4 wire 2mV/V**, 20mV/V



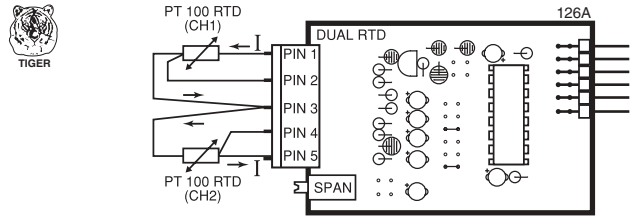
IDS3: Dual Input, Strain Gage and Frequency



IDT1: Dual Thermocouple (J/**K**/R/S/T/B/N)

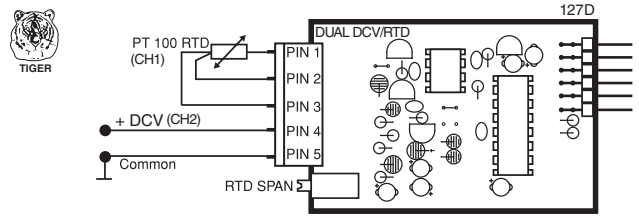


IDT2: Dual RTD Input, 2/3-wire, **100Ω Pt**



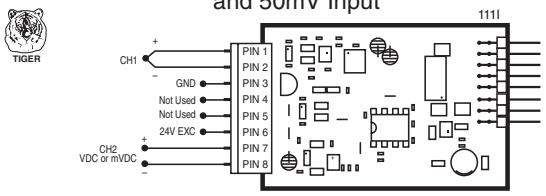
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IDT3: Dual Input, **3-wire RTD** and **DCV**



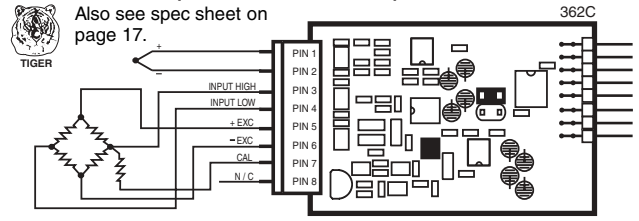
IDT4: Dual Input- Thermocouple (J/**K**/R/S/T/B/N) and 2VDC Input

IDT5: Dual Input- Thermocouple (J/**K**/R/S/T/B/N) and 50mV Input

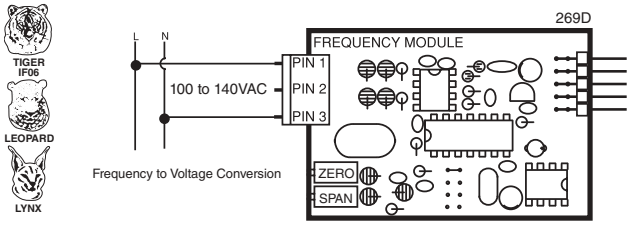


IDT6: Dual Input - Thermocouple and Load Cell

Also see spec sheet on page 17.



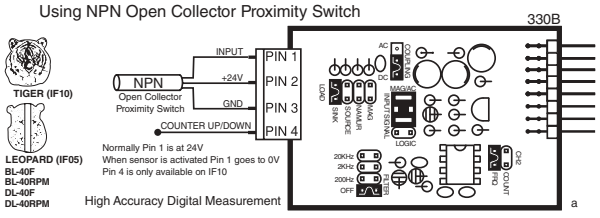
IF02: Line Frequency



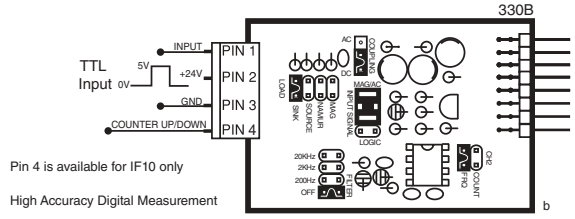
IF05: Universal Frequency / RPM
IF10: Univ. Freq. / RPM / UP DOWN Counter

Also see spec sheets on pages 18 & 20.

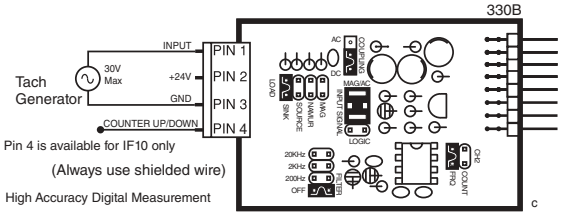
Using NPN Open Collector Proximity Switch



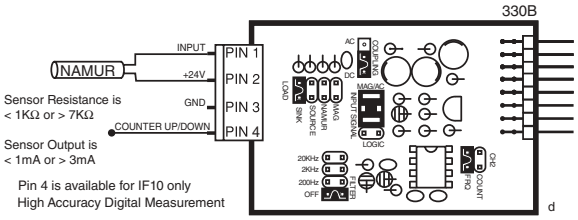
TTL Input Connected to **IF05** and **IF10**



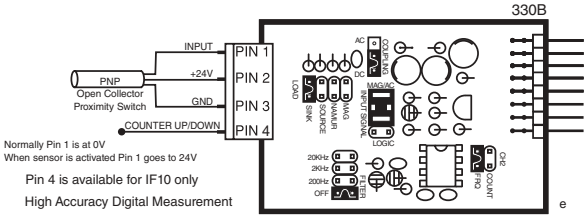
Tach Generator Connected to **IF05** and **IF10**



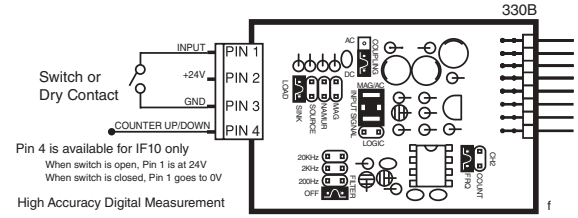
NAMUR Sensor Connected to **IF05** and **IF10**



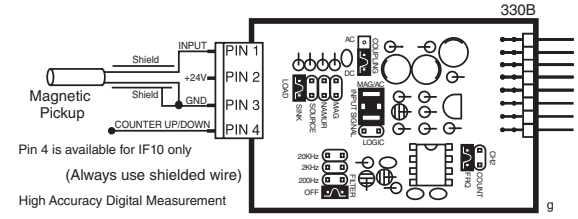
PNP Open Coll. Prox. Switch Conn. to **IF05** and **IF10**



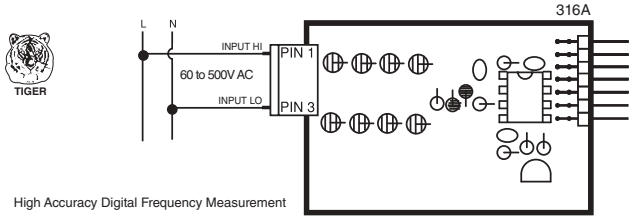
Switch or Dry Contact Connected to **IF05** and **IF10**



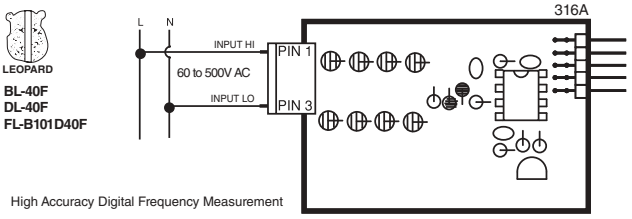
Magnetic Pickup Connected to **IF05** and **IF10**



IF06: Line Frequency



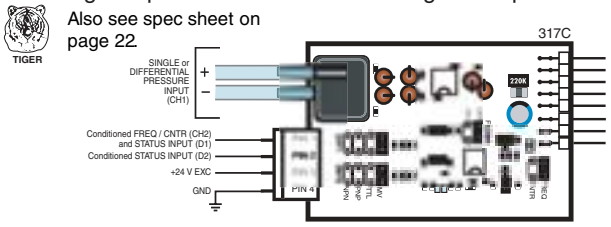
IF08: Line Frequency



High Accuracy Digital Frequency Measurement

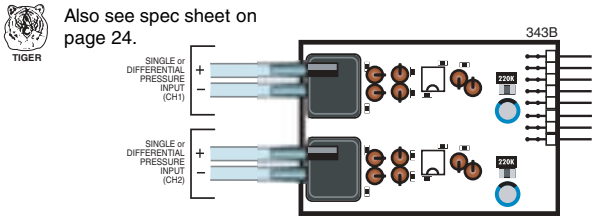
IGYX: Direct Pressure (Absolute or Differential/Gage) with 2 Digital Inputs. See below for ordering code options

Also see spec sheet on page 22.



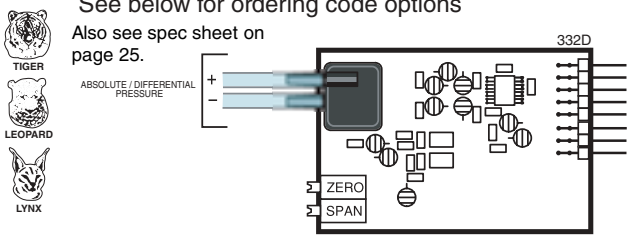
IGYY: Dual Direct Pressure (Absolute or Differential/Gage) see below for ordering code options

Also see spec sheet on page 24.

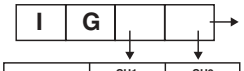


IGYZ: Universal Direct Pressure (Absolute or Differential/Gage) See below for ordering code options

Also see spec sheet on page 25.



Ordering Code Options for Direct Pressure (IGYX, IGYY & IGYZ)

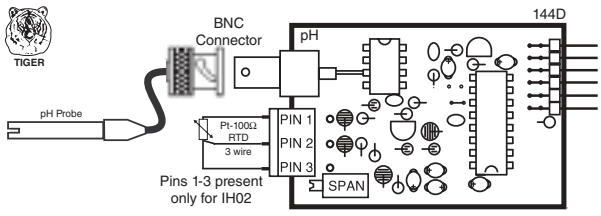


Sensor Range	CH1 Order Code	CH2 Order Code
1 psi Absolute	A	A
1 psi Differential	B	B
5 psi Absolute	C	C
5 psi Differential	D	D
15 psi Absolute	E	E
15 psi Differential	F	F
30 psi Absolute	G	G
30 psi Differential	H	H
100 psi Absolute	J	J
100 psi Differential	K	K

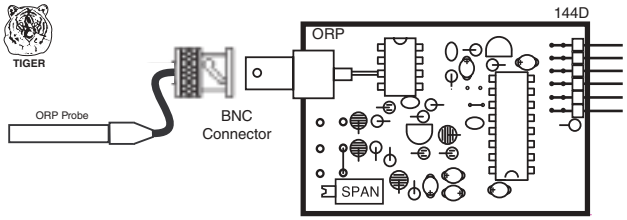
For Single Channel IGYX with two digital inputs, the last digit of order code is always X.

For Universal Direct Pressure IGYZ, the last digit of order code is always Z.

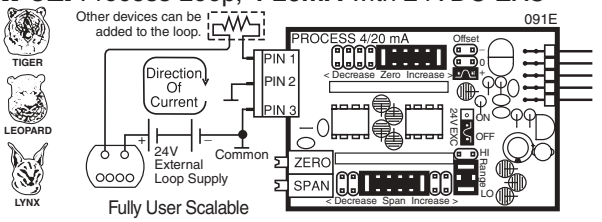
IH01: pH
IH02: pH with Automatic Temperature Compensation



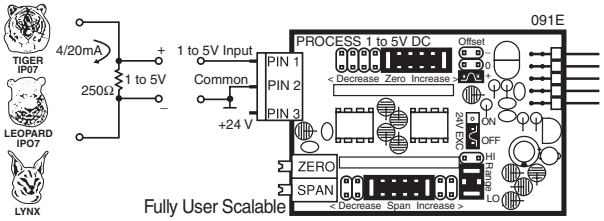
IOR1: ORP (Oxidation Reduction Potential)



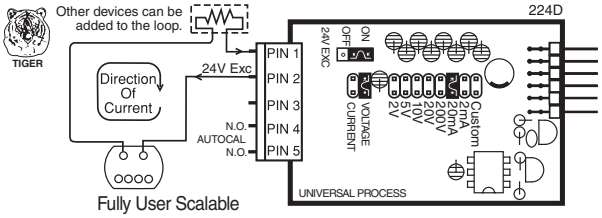
IP01: Process Loop, **4-20mA**
IP02: Process Loop, **4-20mA** with 24VDC EXC



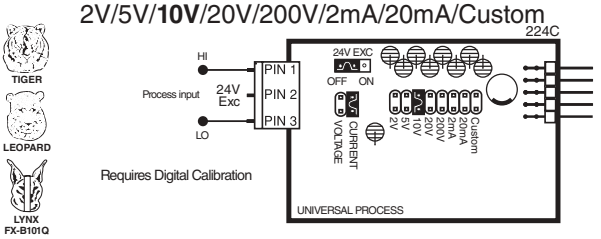
IP03: Process Input, **1-5V DC** with Offset, 24V Exc



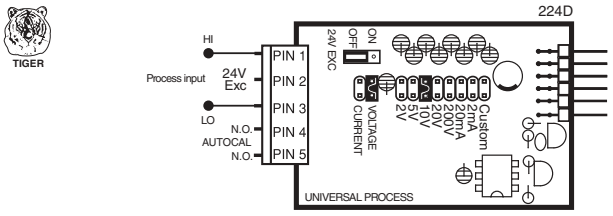
IP06: Process Loop, 4-20mA w/24VDC Exc and Autocal



IP07: Universal Process Input 2V/5V/**10V**/20V/200V/2mA/20mA/Custom

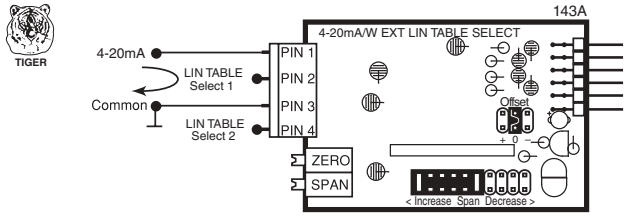


IP08: Universal Process Input with Autocal 2V/5V/**10V**/20V/200V/2mA/20mA/Custom

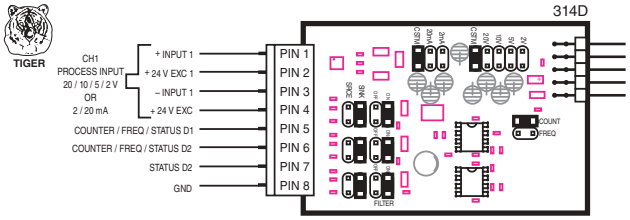


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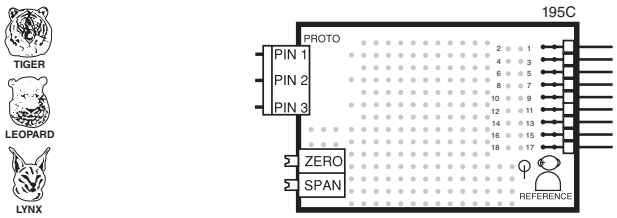
IP09: 4-20mA with External LIN Table Select



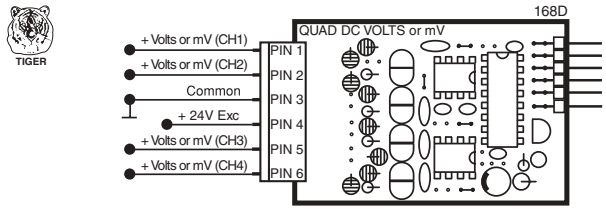
IP10: Process + 3 Digital Inputs



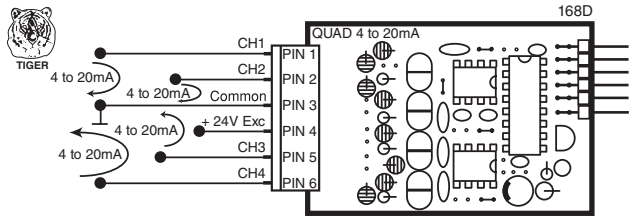
IPT1: Prototype Board for Custom Design



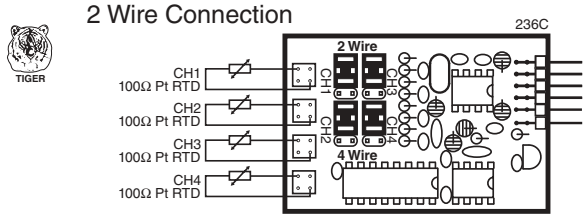
IQD1: Quad DC Volts, **2V DC**
IQD2: Quad DC mV, **50mV DC**



IQP1: Quad 4 to 20mA

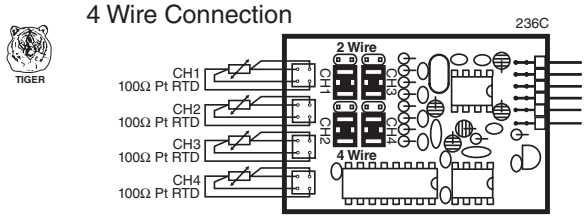


IQT2: Quad RTD Platinum 100Ω RTD 2 Wire Connection



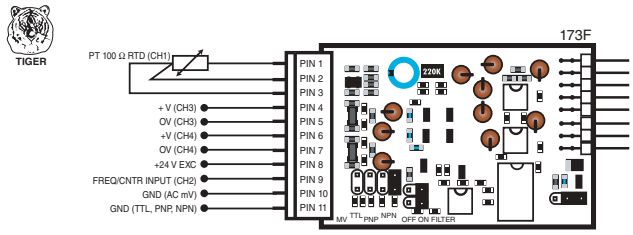
All four RTDs **must** be connected for the meter to work.

IQT4: Quad RTD Platinum 100Ω RTD 4 Wire Connection

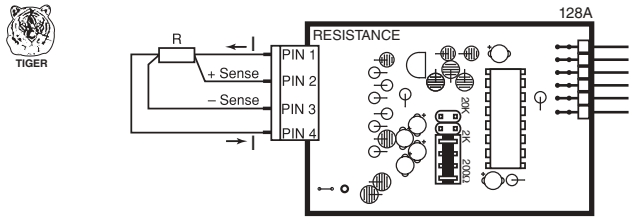


All four RTDs **must** be connected for the meter to work.

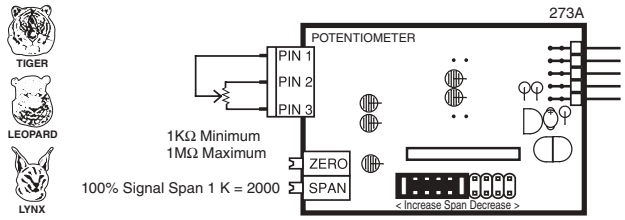
IQT5: Quad RTD / V / V / FREQ



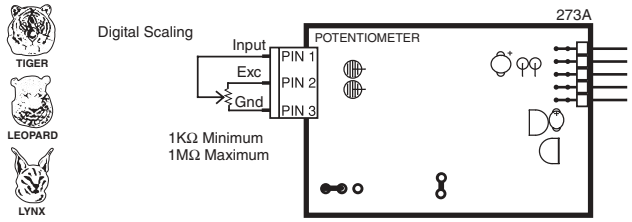
IR01: Resistance, 2/**3**/4-Wire, 200Ω/**2K**Ω/20KΩ



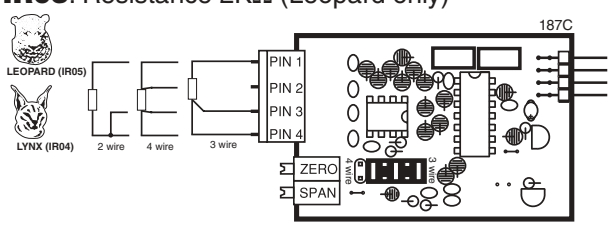
IR02: 3 wire Potentiometer 1KΩ min (0-F.S.)



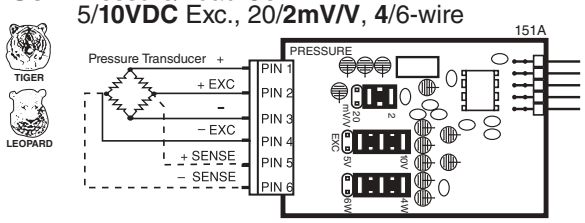
IR03: Linear Potentiometer 1KΩ min



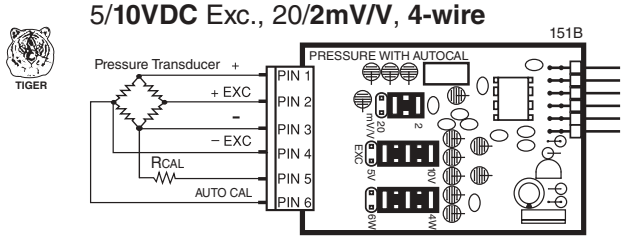
IR04: Resistance 2KΩ (Lynx only)
IR05: Resistance 2KΩ (Leopard only)



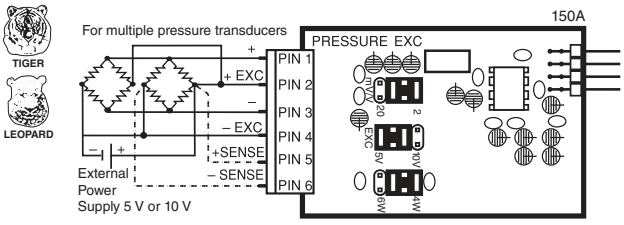
IS01: Strain Gage 5/**10VDC** Exc., 20/**2mV/V**, **4**/6-wire
IS02: Pressure/Load Cell
5/**10VDC** Exc., 20/**2mV/V**, **4**/6-wire



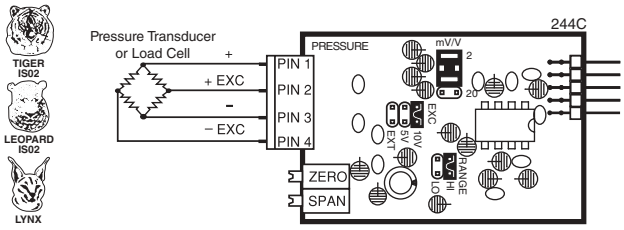
IS03: Pressure/Load Cell with AutoCal
5/**10VDC** Exc., 20/**2mV/V**, **4-wire**



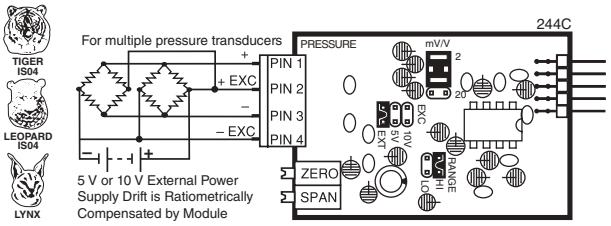
IS04: Pressure/Load Cell Ext Exc., 20/**2mV/V**, **4**/6–wire



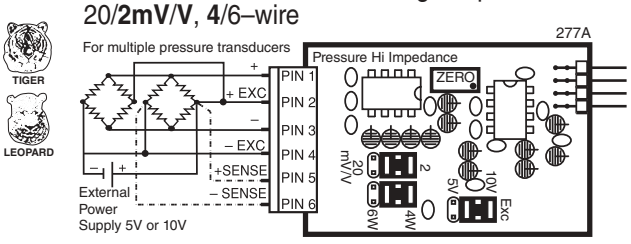
IS05: Pressure/Load Cell 20/**2mV/V**, 5/**10V** Exc 4-wire



IS06: Pressure/Load Cell Ext Exc., 20/**2mV/V**, 4-wire

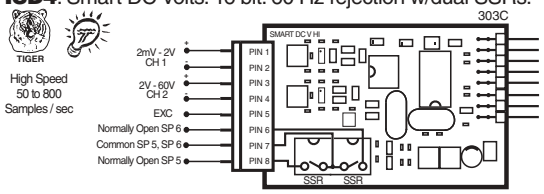


IS07: Pressure/Load Cell Ext Exc. High Impedance,
20/**2mV/V**, **4**/6–wire



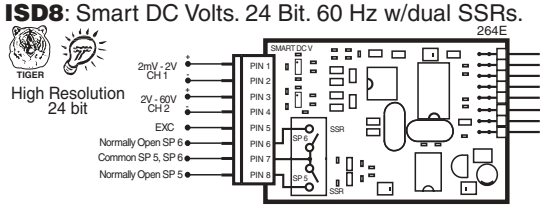
ISD1: Smart DC Volts. 16 bit. Optimized for 50 Hz rejection.
ISD2: Smart DC Volts. 16 bit. Optimized for 60 Hz rejection.
ISD3: Smart DC Volts. 16 bit. 50 Hz rejection w/dual SSRs.
ISD4: Smart DC Volts. 16 bit. 60 Hz rejection w/dual SSRs.

Also see spec sheet on page 26.



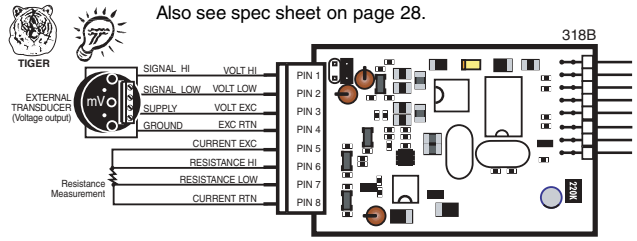
ISD5: Smart DC Volts. 24 Bit. 50 Hz rejection.
ISD6: Smart DC Volts. 24 Bit. 60 Hz rejection.
ISD7: Smart DC Volts. 24 Bit. 50 Hz w/dual SSRs.
ISD8: Smart DC Volts. 24 Bit. 60 Hz w/dual SSRs.

Also see spec sheet on page 27.

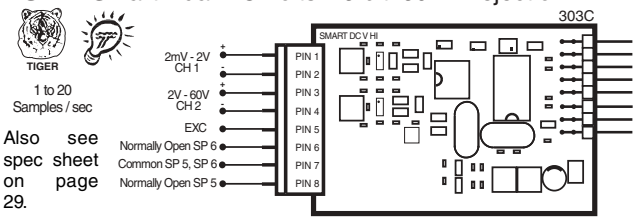


ISD9: Smart Voltage and Resistance Input

Also see spec sheet on page 28.



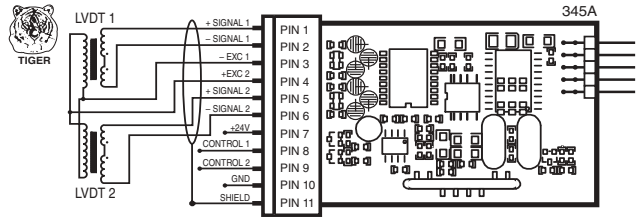
ISDA: Smart Dual DC Volts. 16 bit. 50 Hz rejection.
ISDB: Smart Dual DC Volts. 16 bit. 60 Hz rejection.



Also see spec sheet on page 29.

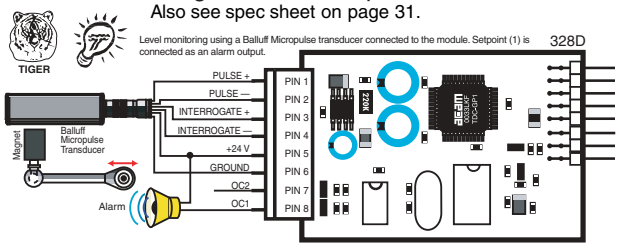
ISL1: Smart Dual LVDT. 50 Hz
ISL2: Smart Dual LVDT. 60 Hz

Also see spec sheet on page 30.



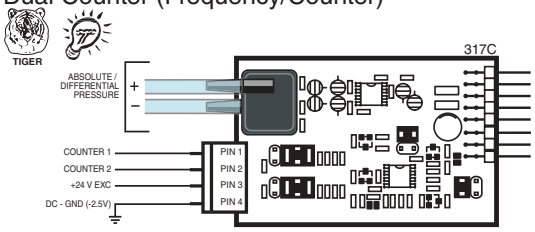
ISM1: Smart Magnetostrictive Input

Also see spec sheet on page 31.



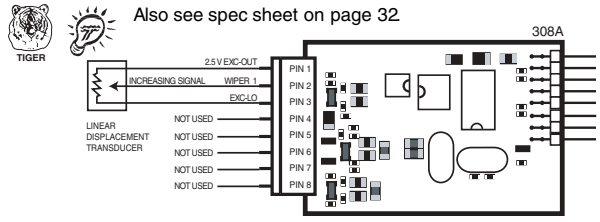
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ISP1: Smart Triple Input, Pressure Direct and Dual Counter (Frequency/Counter)



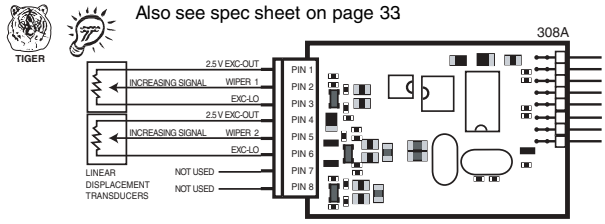
ISR1: Smart Single 3-Wire Potentiometer. 24 bit. 50 Hz
ISR2: Smart Single 3-Wire Potentiometer. 24 bit. 60 Hz

Also see spec sheet on page 32.



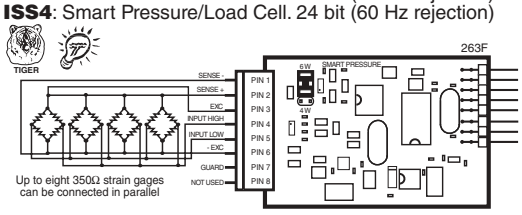
ISR3: Smart Dual 3-Wire Potentiometer. 16 bit. 50 Hz
ISR4: Smart Dual 3-Wire Potentiometer. 16 bit. 60 Hz

Also see spec sheet on page 33



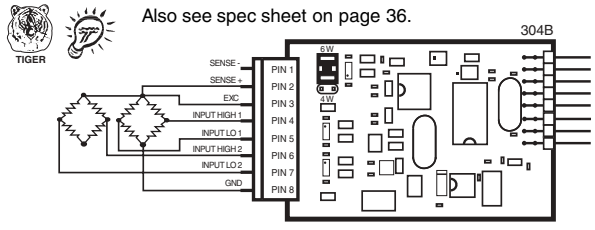
ISS1: Smart Pressure/Load Cell. 16 bit (50 Hz rejection)
ISS2: Smart Pressure/Load Cell. 16 bit (60 Hz rejection)
ISS3: Smart Pressure/Load Cell. 24 bit (50 Hz rejection)
ISS4: Smart Pressure/Load Cell. 24 bit (60 Hz rejection)

Also see spec sheets on pages 34-35.



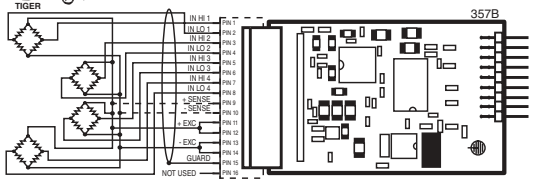
ISS5: Dual Smart Pressure. 16 bit. Optimized for 50 Hz rejection.
ISS6: Dual Smart Pressure. 16 bit. Optimized for 60 Hz rejection.

Also see spec sheet on page 36.

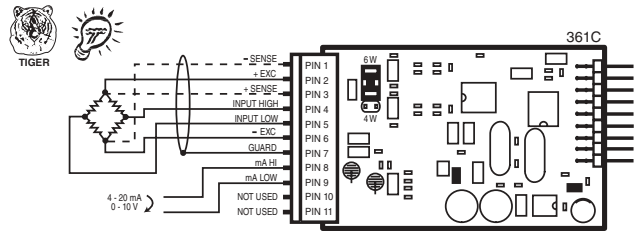


ISS7: Smart Quad Pressure/Load Cell. 16 bit. 50 Hz
ISS8: Smart Quad Pressure/Load Cell. 16 bit. 60 Hz

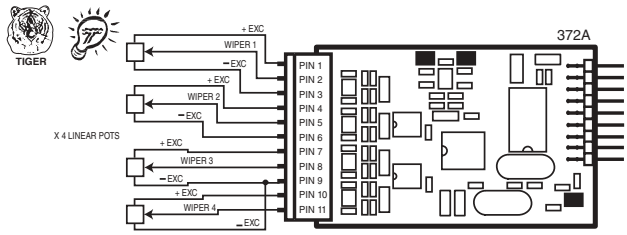
Also see spec sheet on page 37.



ISS9: Smart Dual Input, LC and Process (4-20mA)

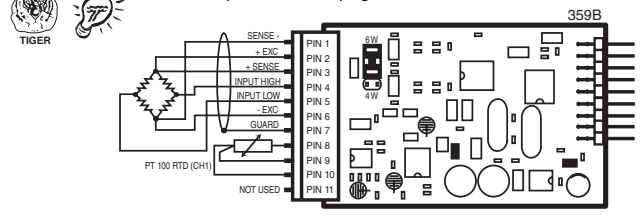


ISSA: Smart Quad Potentiometer/Resistance



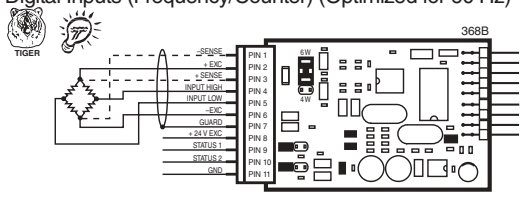
ISSB: Smart Dual Input, Load Cell and RTD

Also see spec sheet on page 38.

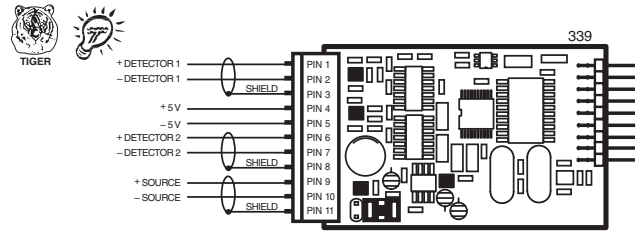


ISSC: Smart Triple Input, 16 bit, Load Cell and two Digital Inputs (Frequency/Counter) (Optimized for 50 Hz)
ISSD: Smart Triple Input, 16 bit, Load Cell and two Digital Inputs (Frequency/Counter) (Optimized for 60 Hz)

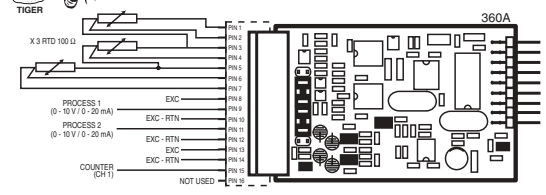
Also see spec sheet on page 39.



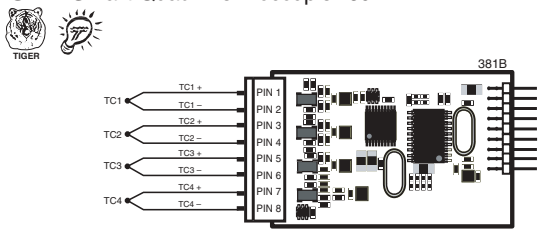
ISSE: Smart Dual Photo Diode Input



IST1: Smart 6 Inputs- 3 RTDs, 2 Proc. & 1 Dig. Input. 50 Hz
IST2: Smart 6 Inputs- 3 RTDs, 2 Proc. & 1 Dig. Input. 60 Hz

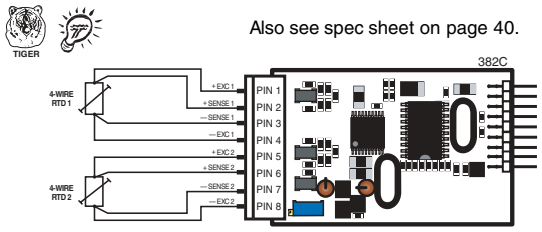


IST3: Smart Quad Thermocouple. 50 Hz
IST4: Smart Quad Thermocouple. 60 Hz

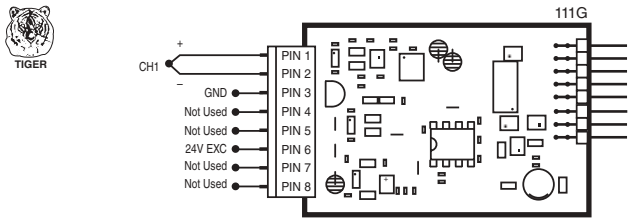


IST5: Smart Dual RTD with 0.01˚ Res. 50 Hz
IST6: Smart Dual RTD with 0.01˚ Res. 60 Hz

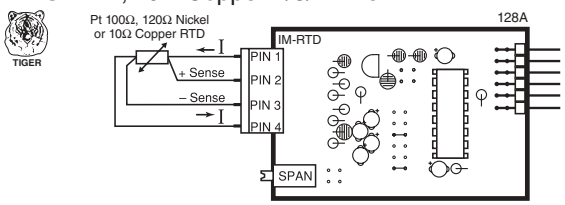
Also see spec sheet on page 40.



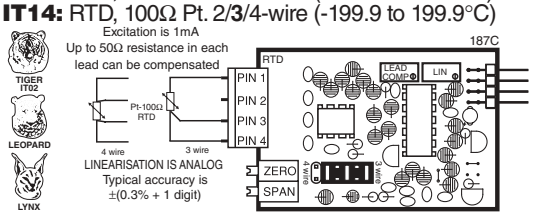
IT01: Thermocouple (J/**K**/R/S/T/B/N)



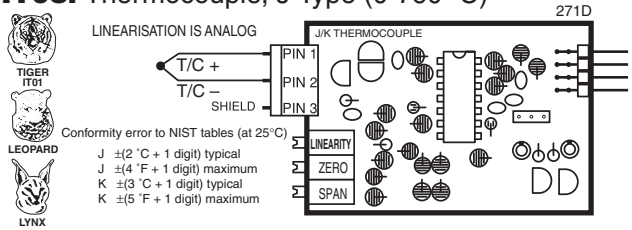
IT02: RTD, 100Ω Pt. 2.3.4-wire
IT12: RTD, 120Ω Nickel 2/**3**/4-wire
IT13: RTD, 10Ω Copper 2/**3**/4-wire



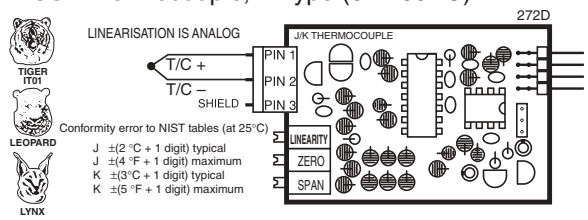
IT03: RTD, 100Ω Pt. 2/**3**/4-wire (-200 to 800°C)
IT04: RTD, 100Ω Pt. 2/**3**/4-wire (-200 to 1470°F)
IT05: RTD, 100Ω Pt. 2/**3**/4-wire (-199.9 to 199.9°F)
IT14: RTD, 100Ω Pt. 2/**3**/4-wire (-199.9 to 199.9°C)



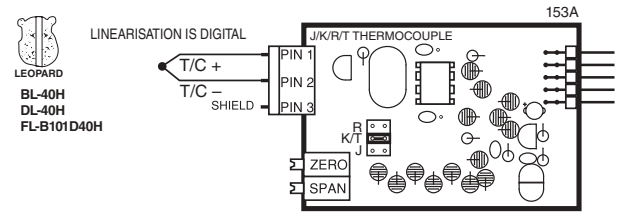
IT06: Thermocouple, J Type (0-1400 ˚F)
IT08: Thermocouple, J Type (0-760 ˚C)



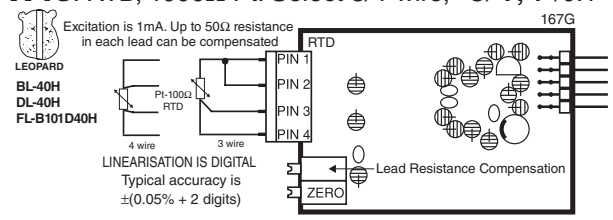
IT07: Thermocouple, K Type (0-1999 °F)
IT09: Thermocouple, K Type (0-1260 °C)



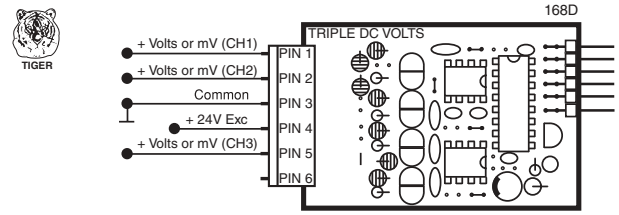
IT10: Thermocouple, J/**K**/R/T, Selectable ˚C/˚**F**, **1**˚/0.1˚



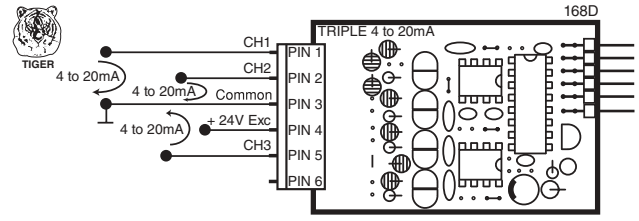
IT11: RTD, 100Ω Pt. Select **3**/4-wire,°C/°**F, 1**°/0.1°
IT15: RTD, 1000Ω Pt. Select 3/4-wire, °C/°**F, 1**°/0.1°



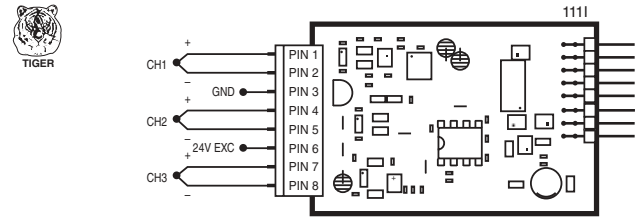
ITD1: Triple DC Volts, **2V DC**
ITD2: Triple DC mV, **50mV DC**



ITP1: Triple 4 to 20mA

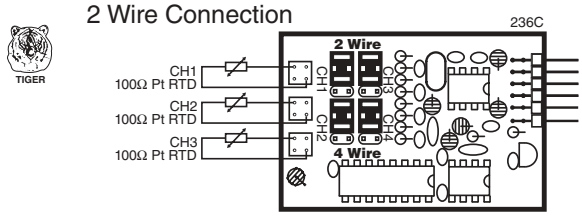


ITT1: Triple Thermocouple (J/**K**/R/S/T/B/N)



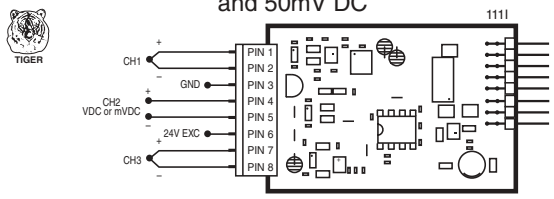
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ITT2: Triple RTD Platinum 100Ω RTD
2 Wire Connection

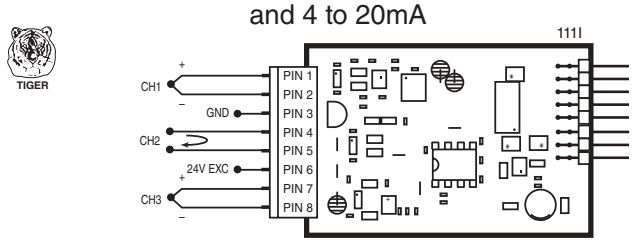


All three RTDs **must** be connected for the meter to work.

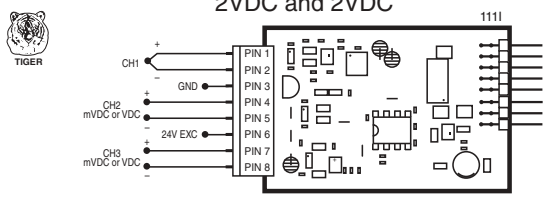
ITT3: Triple Input- T/C, T/C (J/**K**/R/S/T/B/N) and 2VDC Input
ITT5: Triple Input- T/C, T/C (J/**K**/R/S/T/B/N) and 50mV DC



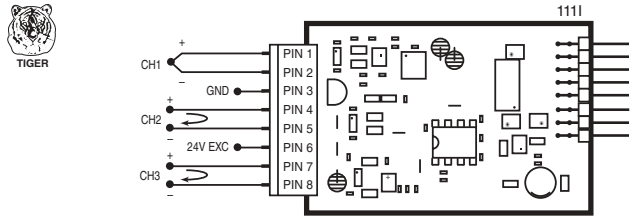
ITT4: Triple Input- T/C, T/C (J/**K**/R/S/T/B/N) and 4 to 20mA



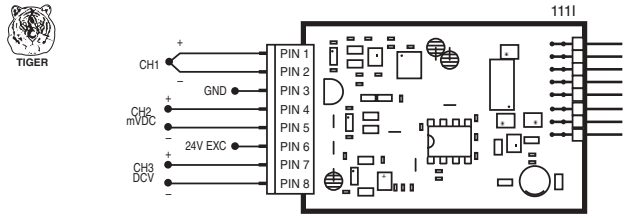
ITT6: Triple Input- T/C (J/**K**/R/S/T/B/N), 50mV DC and 50mV DC
ITT7: Triple Input- T/C (J/**K**/R/S/T/B/N), 2VDC and 2VDC



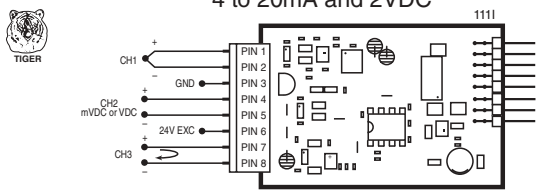
ITT8: Triple Input- T/C (J/**K**/R/S/T/B/N), 4 to 20mA and 4 to 20mA



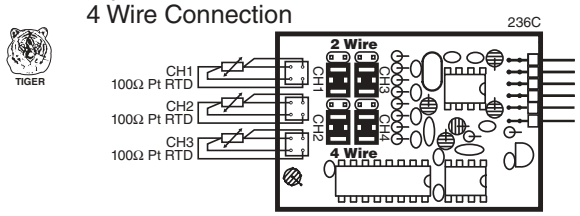
ITT9: Triple Input- T/C (J/**K**/R/S/T/B/N), DCV and 50mV DC



ITTA: Triple Input- T/C (J/**K**/R/S/T/B/N), 4 to 20mA and 50mV DC
ITTB: Triple Input- T/C (J/**K**/R/S/T/B/N), 4 to 20mA and 2VDC

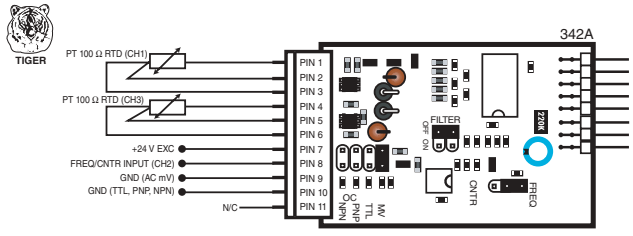


ITTC: Triple RTD Platinum 100Ω RTD
4 Wire Connection

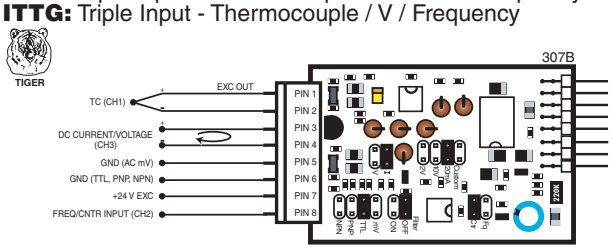


All three RTDs **must** be connected for the meter to work.

ITTE: Triple Input- RTD / RTD / FREQ

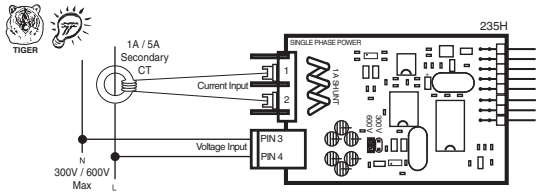


ITTF: Triple Input - Thermocouple / 4-20mA / Frequency
ITTG: Triple Input - Thermocouple / V / Frequency

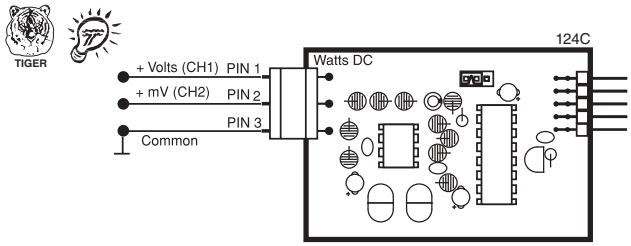


IWO1: Single Phase Power, **300V**/1A
IWO2: Single Phase Power, **300V**/5A
IWO4: Single Phase Power, **600V**/1A
IWO5: Single Phase Power, **600V**/5A

Also see spec sheet on page 41.

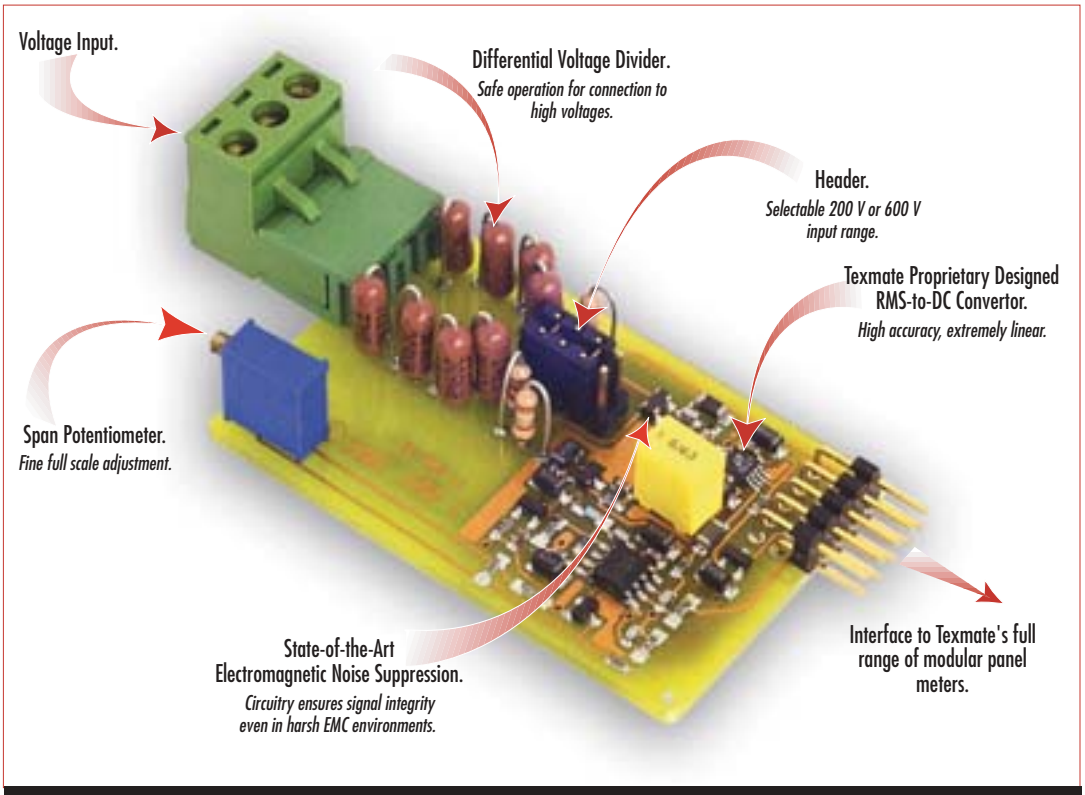


IW03: DC-Watts, **10V/50mV DC**



AC VOLTS TRUE RMS 200/600 V

Order Code
IA06



Compatible With:

TIGER LEOPARD LYNX

INPUTS
- HIGH ACCURACY
- PROCESS 4 / 20 mA 1 / 5 V
- VOLTS AC / DC
- AMPS AC / DC
- WATTS AC / DC
- LOAD-CELL PRESSURE
- FREQUENCY RPM, Pulse, Counter
- TEMPERATURE T/C, RTD
- RESISTANCE

True RMS voltage measurements for the AC power industry.

The IA06 true RMS input module provides unprecedented linearity over a choice of 200 or 600 volt RMS ranges utilizing the Texmate designed ΔΣ RMS-to-DC convertor circuit block. True differential input and high input impedance 2MΩ improved RFI/EMI rejection and protection at high input voltages. High linearity means simple system calibration.

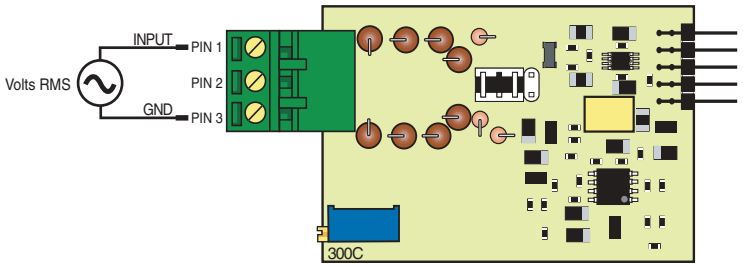
Hardware Module Specifications

Voltage Range	200 V or 600 V RMS, header selectable 0.02 % linearity over full scale.
Frequency Range	0 to 6 KHz, independent of input voltage.
Resolution	1 mV RMS over full scale input.
Accuracy	
Lynx	0.05% of full scale input ± 2 digit.
Leopard	0.05% of full scale input ± 2 digit.
Tiger	0.05% of full scale input ± 1 digit.
Output Signal	Adjustable about 2 V dc for 200 V RMS full scale using SPAN potentiometer.
Span Drift	± 50 ppm/°C of full scale maximum.
Span Drift	± 500 ppm /°C of full scale maximum.

Some Relevant Operating System Features

Direct display of true RMS voltage.
Setpoint control (Tiger & Leopard).
Full scale calibration accurate for any sized signal.

Connector Pinouts



IA06 wired to monitor RMS volts on 200 V full scale

Description

The AC volts true RMS input module is a universal module designed to function with the Lynx, Leopard, and Tiger range of indicators, meter relays, and programmable meter controllers (PMCs). Commonly used in the 0 to 200 V range, a 0 to 200/600 V range header provides the option to go to a higher voltage.
The IA06 has a differential input with common mode filtering and a voltage divider to attenuate the high input voltage to safe levels. Zero input voltage produces a 0 output signal, meaning no zero adjustment is necessary.

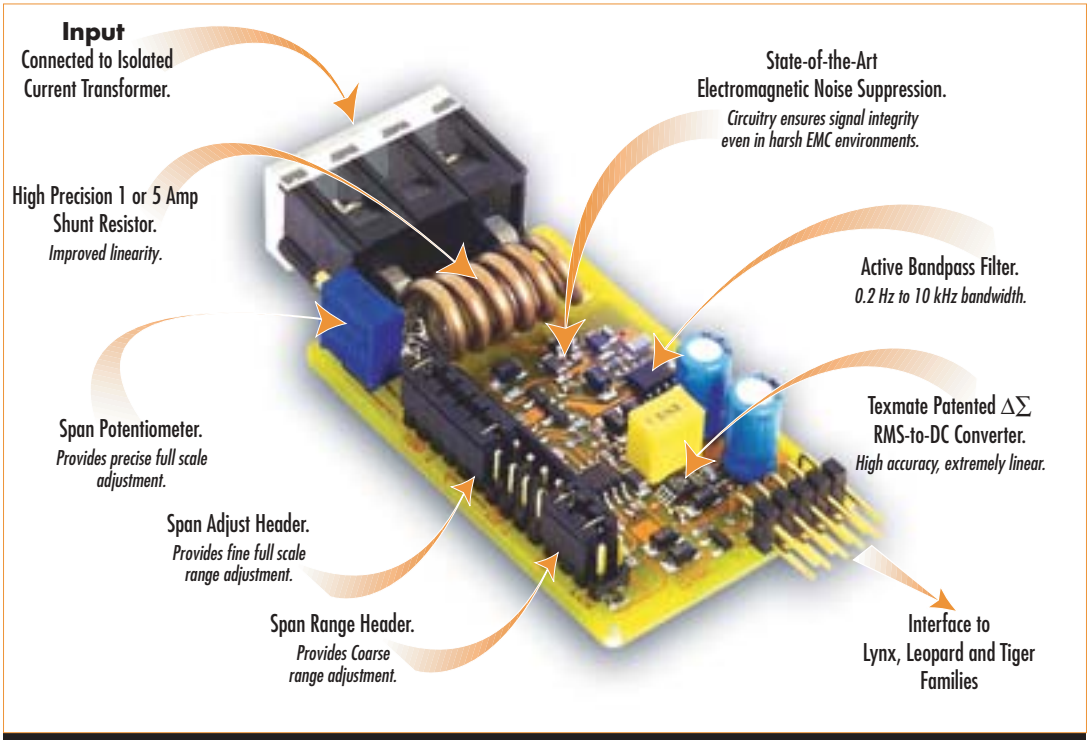
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AC AMPS TRUE RMS 1 OR 5 AMP MODULE

Order Code
IA09 (1 Amp)
IA11 (5 Amp)

Compatible With:
TIGER LEOPARD LYNX

INPUTS
High Accuracy
Amps AC Trms



At last, the answer to precise and repeatable RMS current measurements for the AC power industry.

This revolutionary module utilizes the Texmate designed ΔΣ RMS-to-DC convertor circuit block. This circuit block provides true RMS measurements over a wide range of isolated input currents while maintaining excellent linearity up to a 10 kHz waveform frequency.

Hardware Module Specifications

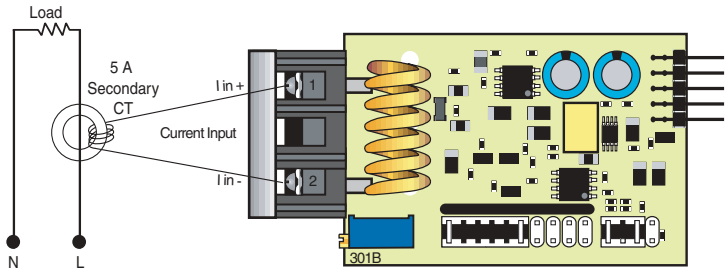
Current Range (Isolated)	IA09: 0-1 A AC, IA11: 0-5 A AC. 0.02 % linearity on both.
Frequency Range	0.2 Hz to 10 KHz (3 dB).
Resolution	1 mA over full scale input.
Accuracy	
Lynx	0.03 % of full scale input ± 2 digit.
Leopard	0.05 % of full scale input ± 2 digit.
Tiger	0.02 % of full scale input ± 1 digit.
Output Signal	Adjustable to 2 V full scale using on-board trimmer and header selections.
Forced Zero	Forces output to 0000 if below 1 % of full scale.
Span Drift	± 500 ppm /°C of full scale maximum.

Some Relevant Operating System Features

Direct display of true RMS current.
Setpoint control (Tiger & Leopard).
Full scale calibration accurate for any sized signal.

Connector Pinouts

Note:
The IA09 and IA11 input module has been designed for use with an isolating current transformer (CT).



IA11 wired to monitor RMS amps usage on a resistive load connected to a single phase mains supply

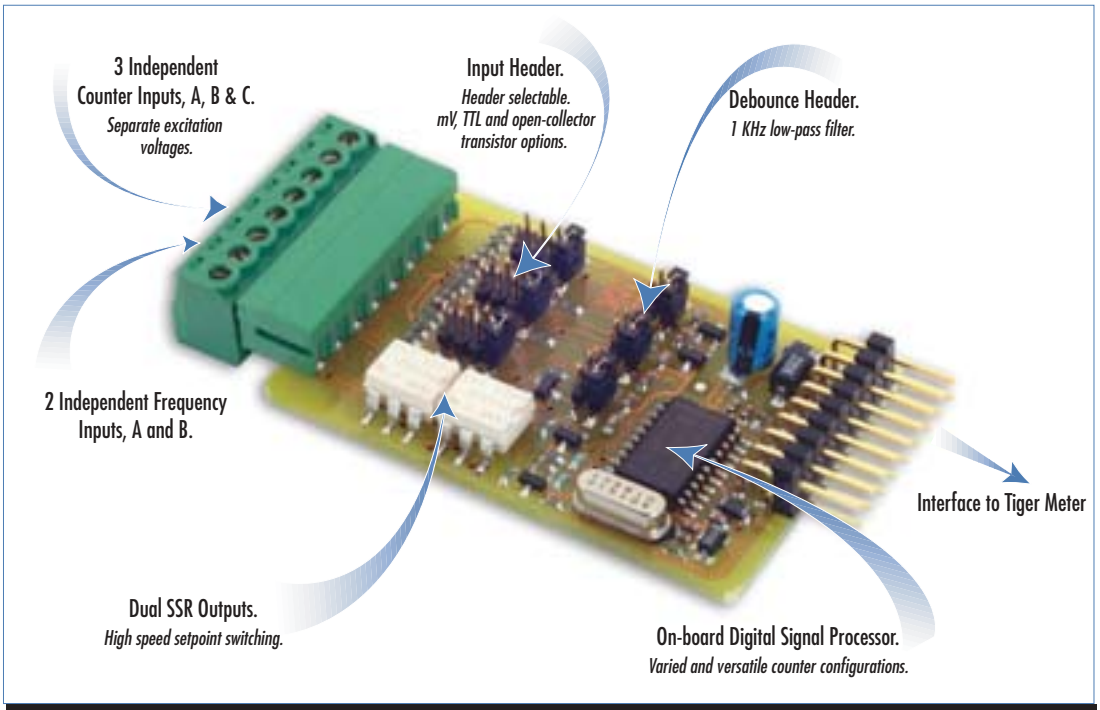
Description

The AC amps true RMS input module is a universal module designed to function with the Lynx, Leopard, and Tiger range of indicators, meter relays, and programmable meter controllers (PMCs).
IA09 has a 1 amp high-precision shunt resistor installed for an isolated current range of 0 to 1 amp, while IA11 has a 5 amp high-precision shunt resistor installed for an isolated current range of 0 to 5 amps. A span potentiometer, span adjust header, and a span range header are used to adjust the input signal full scale. A zero input current produces a 0 V output signal, meaning no zero adjustment is necessary.

QUADRATURE ENCODER SMART INPUT MODULE

Order Code
IC02 (no SSR)
IC03 (with 2 SSRs)

Compatible With: TIGER



The total solution to incremental shaft encoder control.

With this module you can not only sense position and direction of rotation, but the additional third channel can be used as the zero signal for precise determination of reference position. A variety of interface options and excitation voltages are provided to satisfy all user requirements including multiple counter inputs, a choice of two frequency channels and many interactive modes. When interfaced to the Tiger 320 Series operating system, these powerful software features provide the solution to all your counting needs in process control applications.

INPUTS
★ Smart UP/DOWN Counter
Multi Counter
Optional Dual High-speed S.S.R. Output

RPM, Pulse, Counter

Hardware Module Specifications

Counter Inputs	3 independent hardware counters.
Input Header	Configured for mV, TTL, O.C (npn) or O.C (pnp) interface. Switching speed typically 20 kHz, operating mode dependent.
Excitation Voltage	24 Vdc (50 mA maximum) available for all counter inputs.
SSRs	Dual, setpoint switching, solid-state relays. 17 Ω output impedance, ± 400 V isolation, 140 mA maximum load current.
Debounce Header	Set to OFF position for high-speed encoding. Set to ON position for 1 kHz low-pass filter useful in contact push-button debounce inputs.

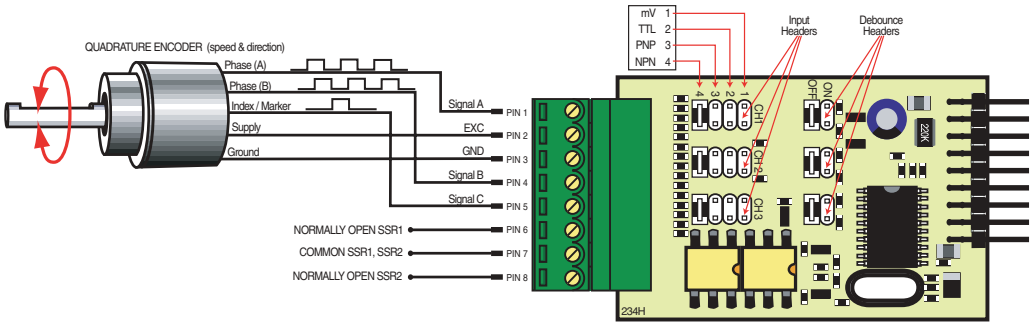
Software Module Features

Quadrature Mode	Choice of x1, x2 and x4 modes for increased resolution.
A, B Modes	A & B independent counter inputs arranged in various combinations.
C Mode	C counter control to capture, reset to predetermined counts, zero and/or restart A & B counters.
SSR Switching	Independent fast >1 ms setpoint switching of each SSR using counter selected from smart output register. Can be NO or NC relay outputs.
Frequency Option	100 kHz on A input, 500 kHz on B input.

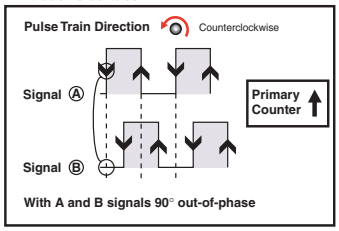
Some Relevant Operating System Features

Dual Rate (Frequency) On A and B.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
Macro Compiler for PLC Functions.

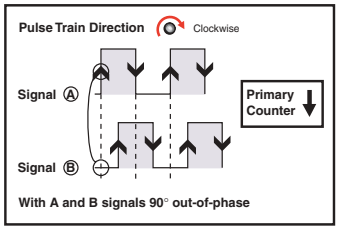
Connector Pinouts



X1 Mode: Clockwise



X1 Mode: Counterclockwise



Description

The meter has three smart setup registers to configure smart input modules. Smart input module IC02 requires only smart register 1 to be set up, while IC03 requires smart registers 1 and 2 to be set up.

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THERMOCOUPLE & LOAD CELL INPUT MODULE

Order Code
IDT6

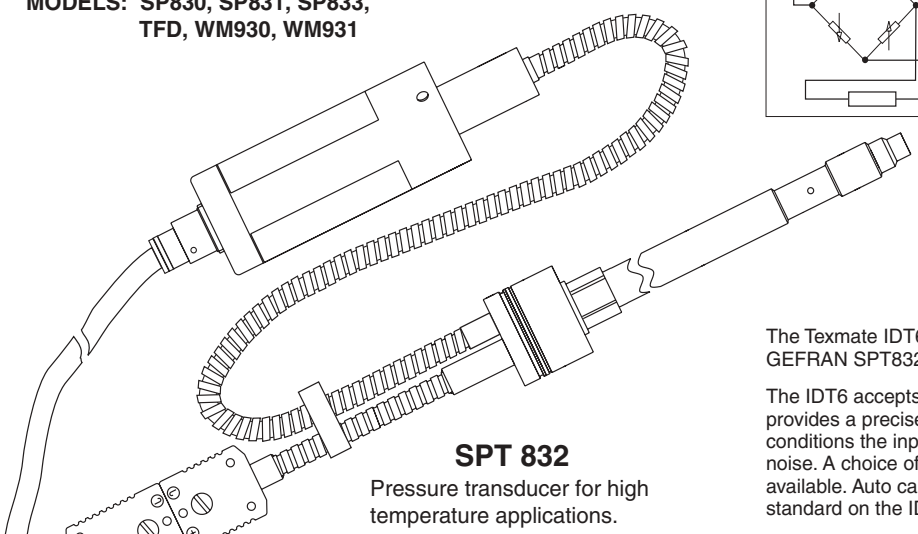
Compatible With: TIGER



The solution for high-pressure applications.

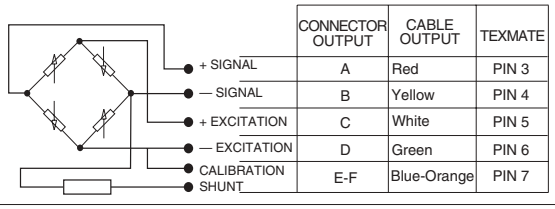
MELT PRESSURE WITH RCAL & TEMPERATURE
MODELS: SPT832 (shown), WMT932, TPF86, HP

PRESSURE WITH RCAL
MODELS: SP830, SP831, SP833, TFD, WM930, WM931

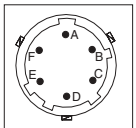


SPT 832
Pressure transducer for high temperature applications.

ELECTRICAL CONNECTIONS



	CONNECTOR OUTPUT	CABLE OUTPUT	TEXMATE
+ SIGNAL	A	Red	PIN 3
— SIGNAL	B	Yellow	PIN 4
+ EXCITATION	C	White	PIN 5
— EXCITATION	D	Green	PIN 6
CALIBRATION SHUNT	E-F	Blue-Orange	PIN 7

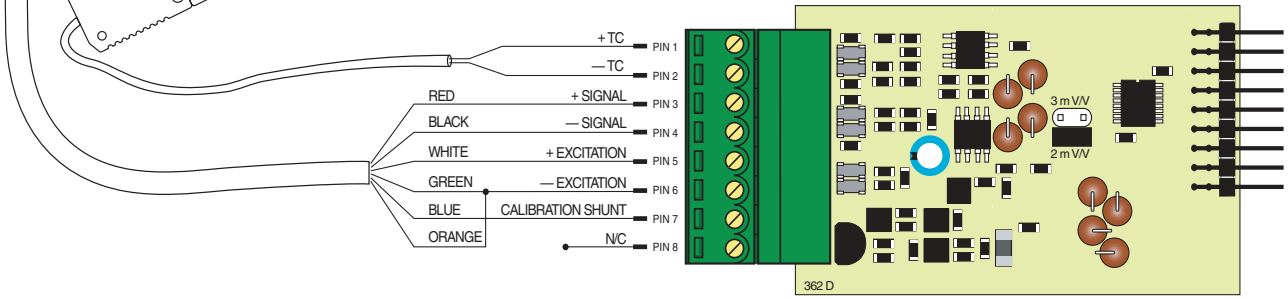


VPT07RA10-6PT2
MALE CONNECTOR

When the transducer is fitted with connection cable, the above table shows the wiring color code.

The Texmate IDT6 input module easily interfaces with the GEFRAN SPT832 probe head.

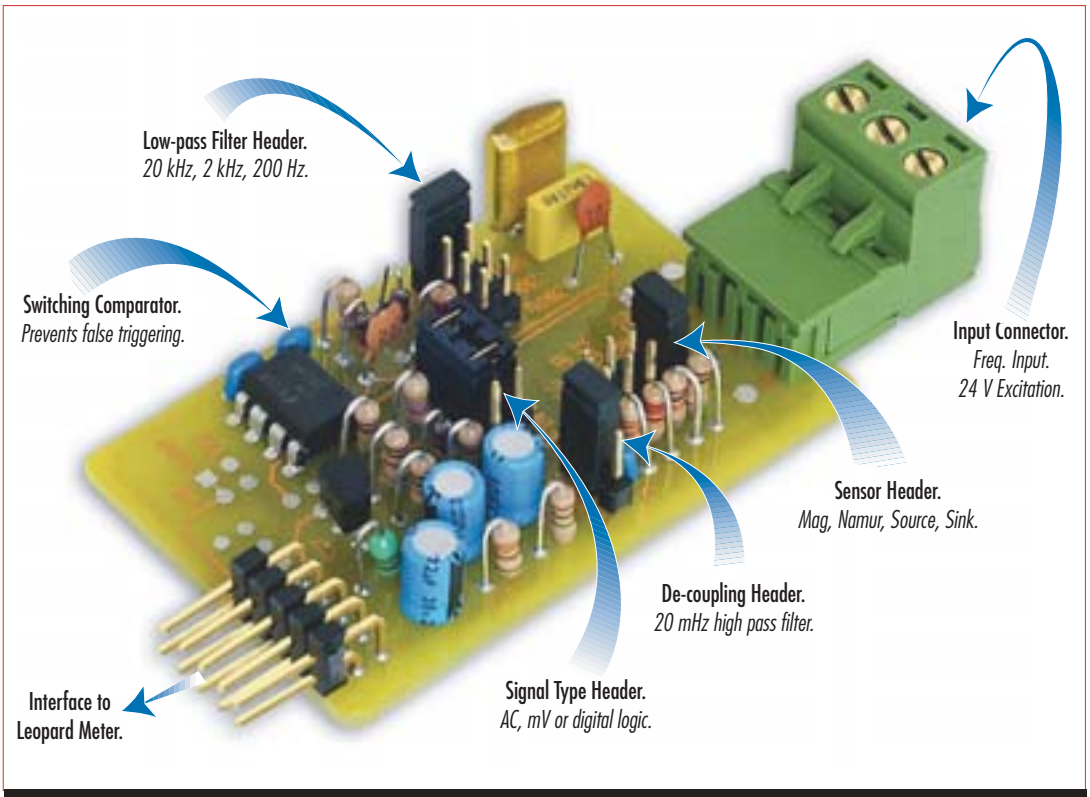
The IDT6 accepts industry standard thermocouples. The IDT6 provides a precise +8 V excitation for the pressure sensor and conditions the input signal ratiometrically to minimize drift and noise. A choice of 2 mV/V and 3 mV/V bridge sensitivities are available. Auto calibration using an external shunt resistor is standard on the IDT6.



Texmate TC / Pressure / Autocal Input Module IDT6.

FREQ./RPM INPUT MODULE WITH 24V EXC.

Order Code
IF05



Your first choice frequency/rpm input module.

Compatible With:

LEOPARD
BL-40F
BL-40RPM
DL-40F
DL-40RPM
FL-B101D40F
FL-B101D40R

INPUTS

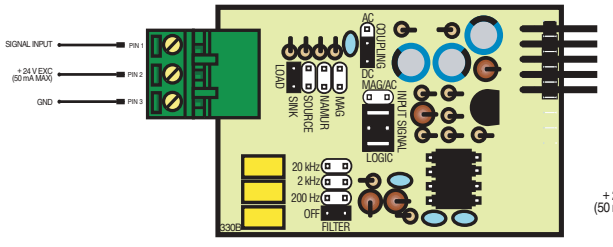
FREQUENCY
RPM, Pulse, Counter

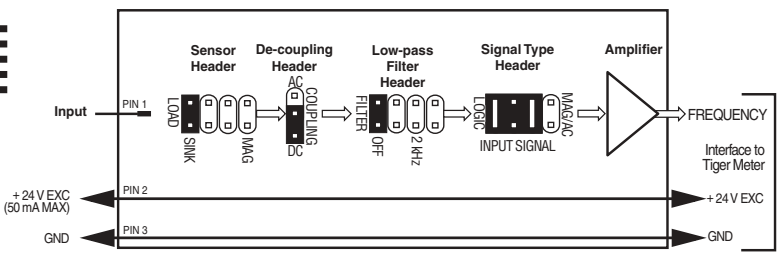
Should your transducer be a magnetic pick-up outputting small AC volts or an open-collector transistor switching voltage levels, the IF05 is easily connected with a selection of configuration headers. These headers provide a variety of options to interface to time varying or change-of-state signals.

Hardware Module Specifications

Signal Input	0-24 V DC, 0-30 V AC.
Low-pass Filter Header	Off, 200 Hz, 2 kHz, 20 kHz cut off frequency.
De-coupling Header	DC component removed by 0.02 Hz high-pass filter.
Sensor Header	Optional sink / source for digital transistor or switch interface; specific Namur 2-wire proximity detector option; magnetic pick-up (AC) choice.
Signal Type Header	Choice of DC (logic) or AC signal type.
Frequency Response	Set by Leopard meter configuration software. Display to 9999 counts.
Excitation Voltage	24 V DC (50 mA maximum) to power external transducers.
Maximum Input Frequency	20 kHz.

Connector Pinouts





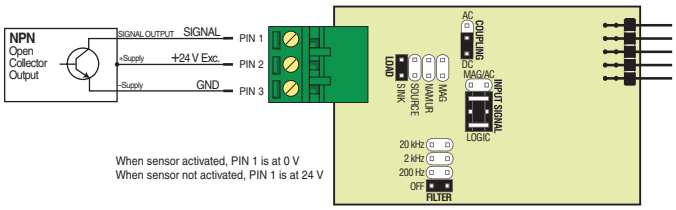
Description

The IF05 is a frequency/RPM input module designed specifically for BL-40F, BL-40RPM, DL-40F, DL-40RPM, FL-B101D40F and FL-B101D40R meters in the Leopard family range. The IF05 input module receives and conditions a frequency input via pin 1 and supplies the input to the meter for further processing. Selectable on-board headers provide configuration settings allowing different sensor types to be selected along with high and low-pass filtering.

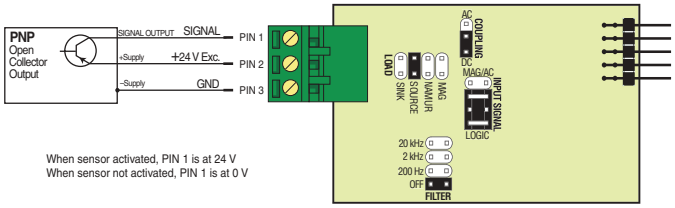
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Interface Configuration Examples for **IF05**

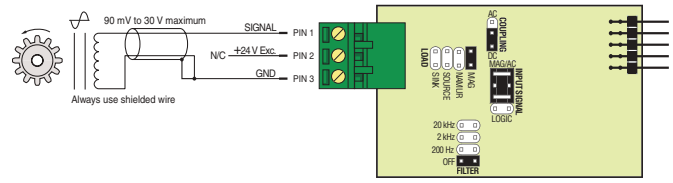
Example 1 – NPN Open-collector Output with Proximity Switch



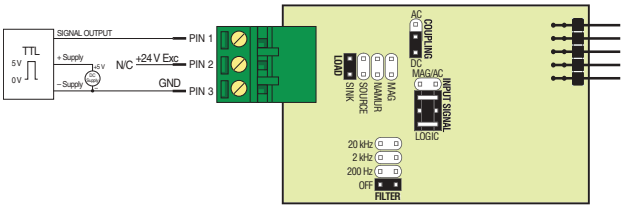
Example 2 – PNP Open-collector Output with Proximity Switch



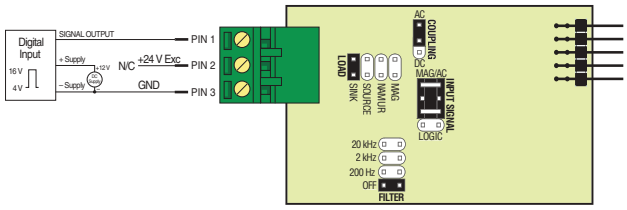
Example 3 – Hall Effect / Magnetic Pickup – mV Input



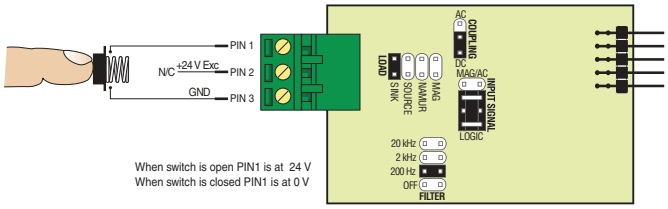
Example 4 – TTL Input



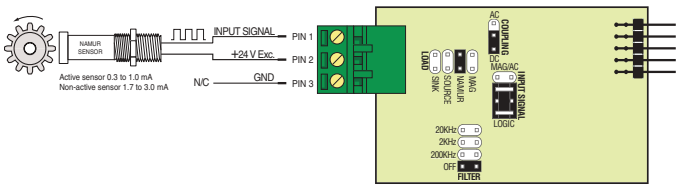
Example 5 – Digital Input with DC Voltage Offset



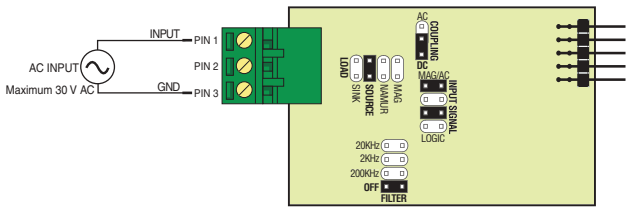
Example 6 – Pushbutton Switch



Example 7 – NAMUR Sensor



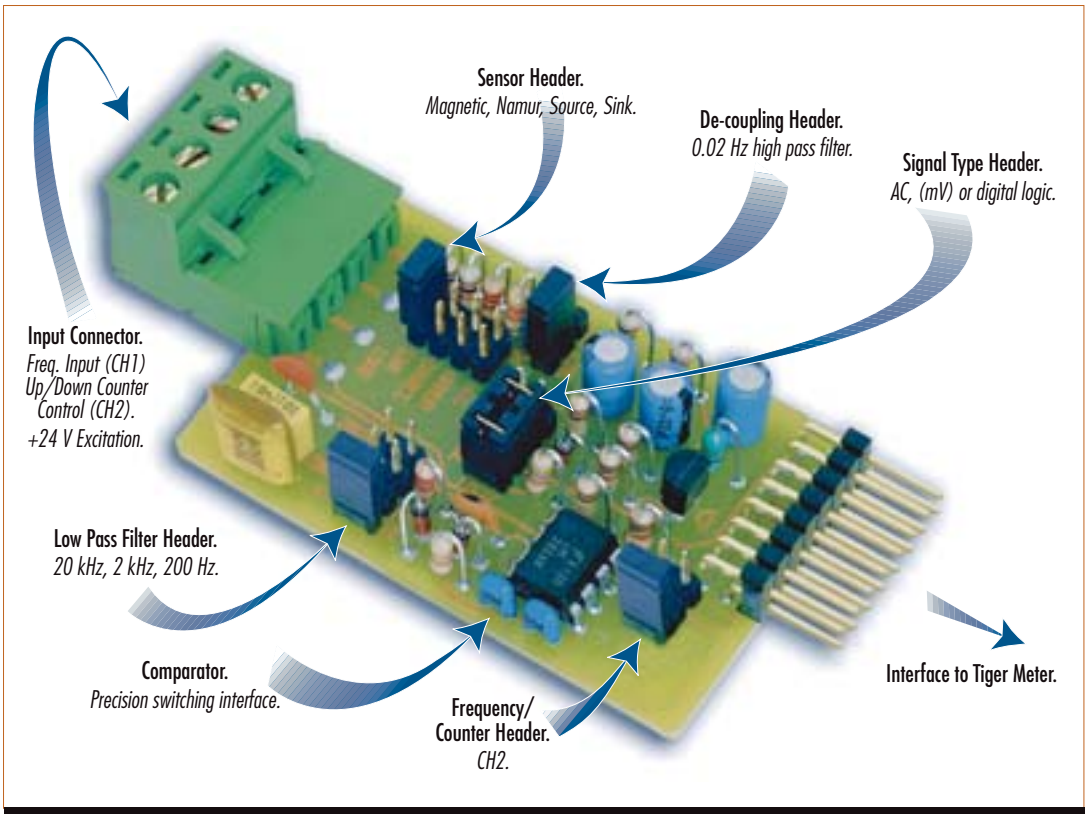
Example 8 – Tacho-generator Sensor



UNIVERSAL FREQ/COUNTER INPUT MODULE

Order Code
IF10

Compatible With: TIGER



Your first choice frequency/rpm/counter input module.

INPUTS

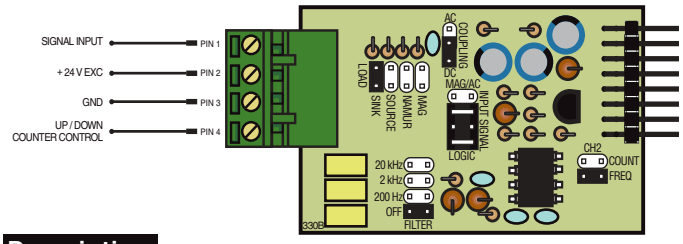
FREQUENCY
RPM, Pulse, Counter

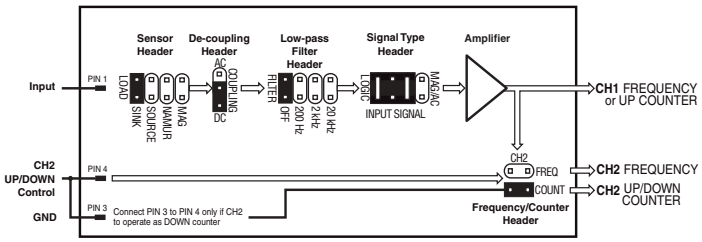
Combined with the Tiger 320 Series operating system, the IF10 universal frequency/counter input module is the quick-fix interface to time varying signals. You now have a versatile and powerful monitoring and control system to perform tasks such as totalizing counts, frequency measurements, or status monitoring. Should your transducer be a magnetic pick-up outputting small AC volts or an open-collector transistor switching voltage levels, the IF10 is easily connected with a selection of configuration headers providing a variety of interface options.

Hardware Module Specifications

Signal Input	0-24 V DC, 0-30 V AC. CH1 frequency or UP counter. CH2 frequency or UP / DOWN counter.
Low-pass Filter Header	None, 200 Hz, 2 kHz, 20 kHz cut off frequency.
De-coupling Header	DC component removed by 0.02 Hz high-pass filter.
Sensor Header	Optional sink / source for digital transistor or switch interface; specific Namur 2-wire proximity detector option; magnetic pick-up (AC) choice.
Signal Type Header	Choice of DC (logic) or AC signal type.
Frequency/Counter Header	CH2 function select.
Frequency Response	Set by Tiger meter configuration software. Can be as fast as 200 kHz on CH1 or CH2.
Excitation Voltage	24 V DC (50 mA) to power external transducers.
CH2 UP/DOWN Control	DOWN counter: Connect Pin 3 & Pin 4. UP counter: Leave Pin 3 OPEN when frequency/counter header is set to counter.

Connector Pinouts





Description

The Tiger 320 Series controller has four input channels capable of processing almost any input signal type. The IF10 universal frequency/counter input module uses only channels 1 (CH1) and 2 (CH2).

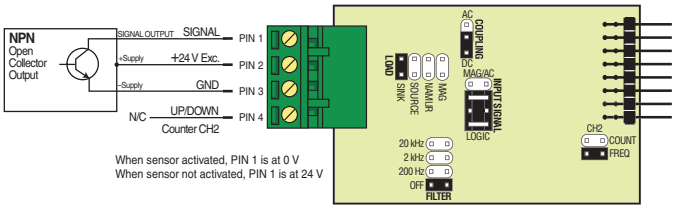
The IF10 input module receives and conditions an AC volts or digital input signal, via pin 1, and supplies a frequency input to CH1 and CH2 in the meter for further processing. CH1 can also be configured as an UP counter via software selection in Code 2 of the meter's programming software. CH2 can be configured as an UP or DOWN counter. The UP/DOWN counter control signal for CH2 is connected to pin 4. With the frequency/counter selection header set to the COUNT position, the input module provides an UP counter output to the meter for further processing. To provide a DOWN counter, pin 4 must be connected to ground (pin 3).

Selectable on-board headers provide configuration settings allowing the sensor and signal type to be selected along with high and low-pass filtering. These selectable headers give the Tiger 320 Series the flexibility to perform dual software operations such as rate of change on CH1 and totalizing on CH2.

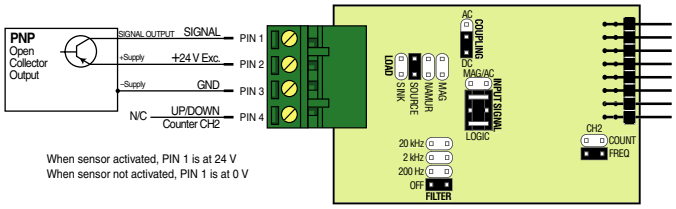
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Interface Configuration Examples for **IF10**

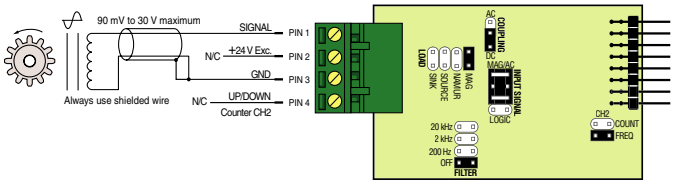
Example 1 – NPN Open-collector Output with Proximity Switch



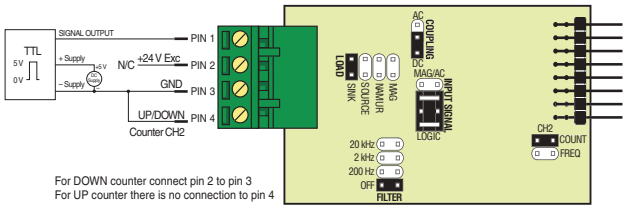
Example 2 – PNP Open-collector Output with Proximity Switch



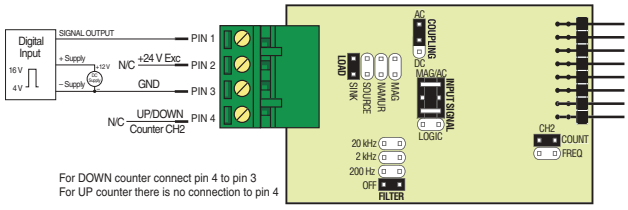
Example 3 – Hall Effect / Magnetic Pickup – mV Input



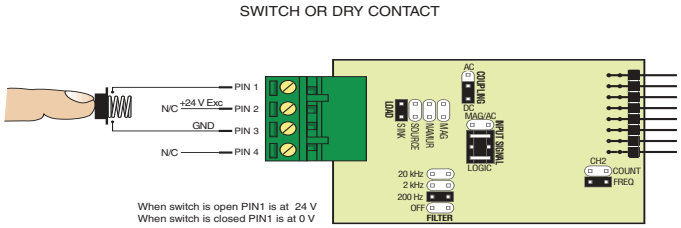
Example 4 – TTL Input



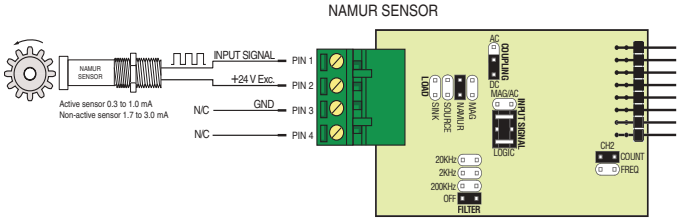
Example 5 – Digital Input with DC Voltage Offset



Example 6 – Pushbutton Switch with Frequency & UP Counter Option



Example 7 – NAMUR Sensor



DIRECT PRESSURE SENSOR INPUT MODULE

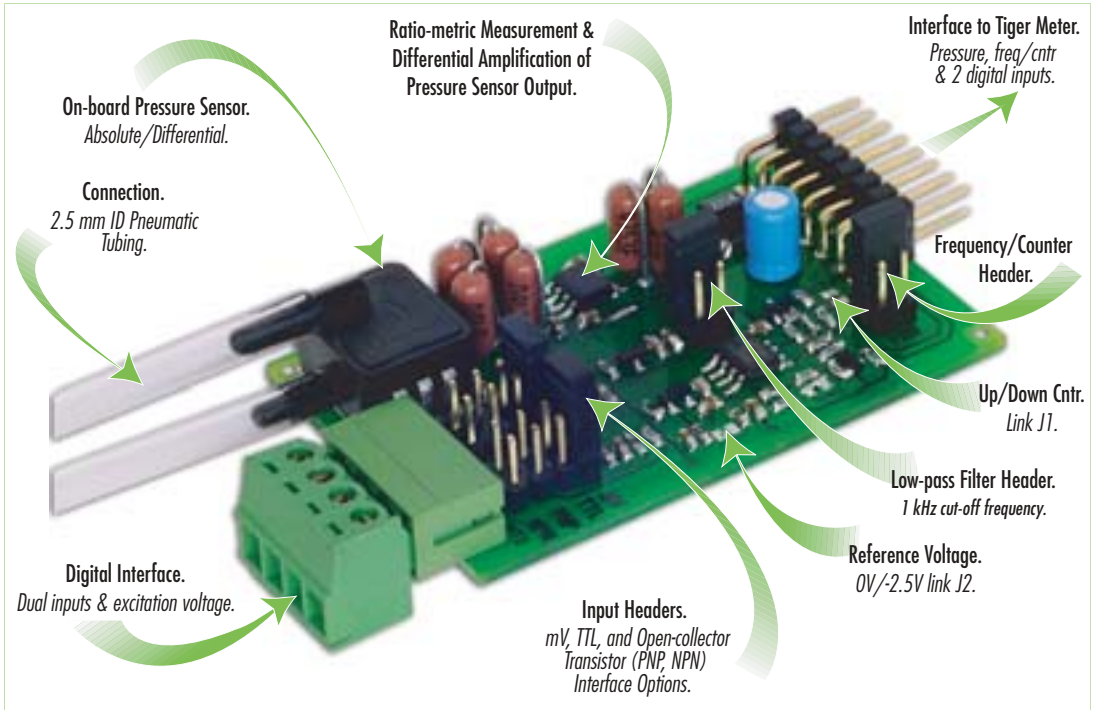
Order Code
IGYX

I	G		X

Sensor Range	CH1
1 psi absolute	A
1 psi differential	B
5 psi absolute	C
5 psi differential	D
15 psi absolute	E
15 psi differential	F
30 psi absolute	G
30 psi differential	H
100 psi absolute	J
100 psi differential	K

For Single Channel IGYX with two status inputs, the last digit of the order code is always X.

For example, IGDX:
CH1 5 psi, differential pressure.



An on-board pressure sensor combined with dual digital inputs.

A cost effective solution for pressure applications requiring monitoring and process control of non-corrosive, non-ionic working fluids such as air, dry gases and similar. The pressure sensor is available in absolute and differential models and pressure ranges from 0 to 100 psi. Two independent digital inputs and a 24 V excitation voltage provide additional transducer and/or logic interfaces for measuring such variables as flow rate of the fluid being monitored.

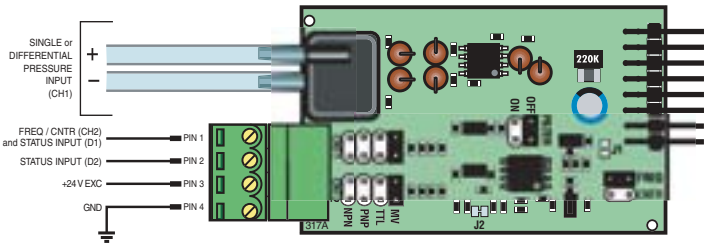
Compatible With: TIGER

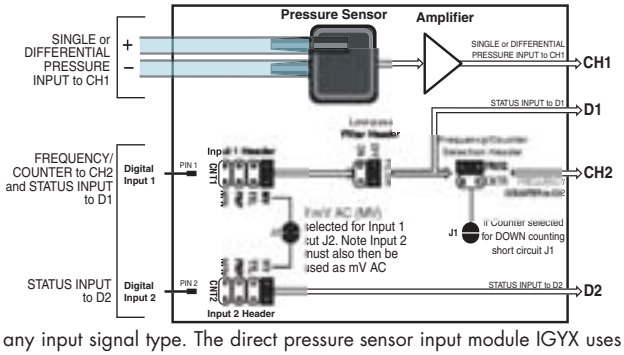
INPUTS
☆ DIRECT PRESSURE
PRESSURE
FREQUENCY RPM, Pulse, Counter

Hardware Module Specifications

Pressure Inputs Channel 1	Absolute or differential connections via 2.5 mm I.D. pneumatic tubing.
Pressure Ranges	0-1, 0-5, 0-15, 0-30, and 0-100 psi. Temperature compensated 0-50 °C, ± 0.4% F.S.
Max Pressure any Port	150 psi.
Repeatability	± 0.2% F.S. typical.
Linearity/Hysteresis	± 0.2% F.S. typical.
Digital Inputs	Dual independent digital inputs. Input 1(Channel 2) can be configured to measure frequency, or as an UP/DOWN counter and as a digital input (D1). Input 2 is treated as a digital input only (D2). In both cases, frequency response is dependent on meter update rate.
Input Headers	Configured for mV, TTL, OC (NPN/PNP) interface. Millivolt reference to 0 V (open jumper J2) TTL/PNP/NPN referenced to -2.5 V (close jumper J2)
Excitation Voltage	24 V DC (50 mA) available for external signal exc.
Low-pass Filter Header	Set to OFF position for high speed update. Set to ON for 1 kHz cut off frequency low-pass filter. (Does not apply to Input 2.)
Frequency/Counter Header	Input 1selected as either a frequency or counter input. Up counter: open jumper J1. Down counter: close jumper J1. (Does not apply to Input 2.)

Connector Pinouts





Description

The Tiger 320 Series controller has four input channels capable of processing almost any input signal type. The direct pressure sensor input module IGYX uses only channels 1 and 2 and also the controller's digital inputs D1 and D2.

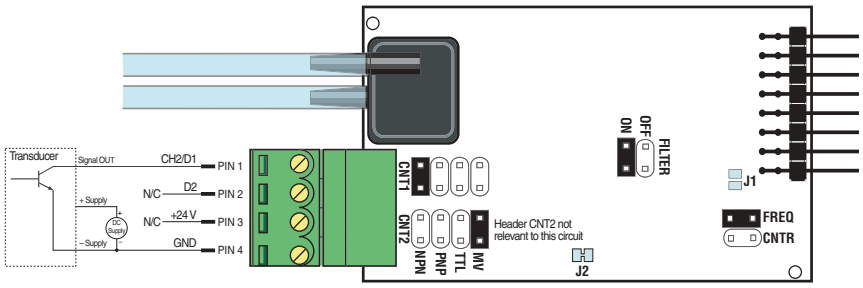
The input module processes the pressure input via a built-in pressure sensor capable of processing an absolute or differential pressure input. The pressure signal is then fed to CH1 for further processing. Gain setting resistors are factory installed to optimize the full scale output for each pressure range. Contact Texmate when ordering to discuss your pressure range requirements.

In addition to the pressure sensor, there is a digital interface with independent dual inputs and a 24 V excitation voltage. Each input uses an input header to interface to standard open collector (PNP or NPN), TTL, or millivolt digital signals. Frequency or counter inputs are fed through input 1 where they are conditioned and have the option of low-pass filtering, via a selection header, then fed to CH2 for further processing. Input 1 can also receive status inputs that are conditioned and fed to the controller's digital input D1, where it can be used for setpoint control or macro functions. Input 2 receives status inputs that are conditioned and fed to the controller's digital input D2, where it can also be used for setpoint control or macro functions.

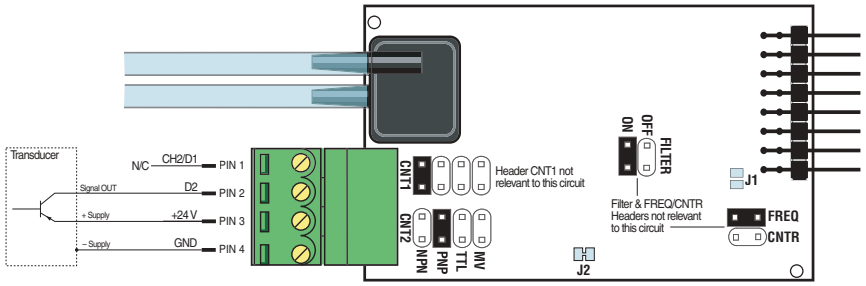
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Interface Configuration Examples for **IGYX**

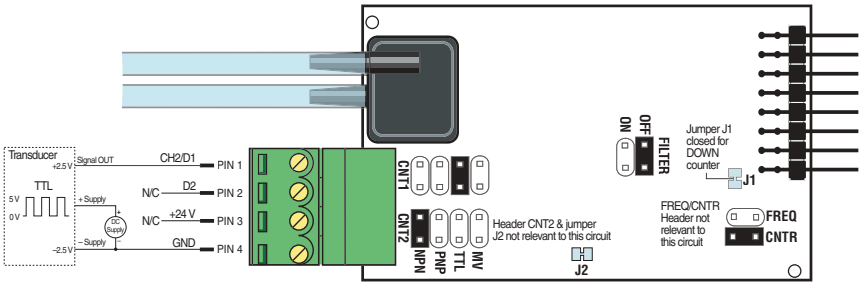
Example 1 – Frequency Input with 1 kHz Low-pass Filter



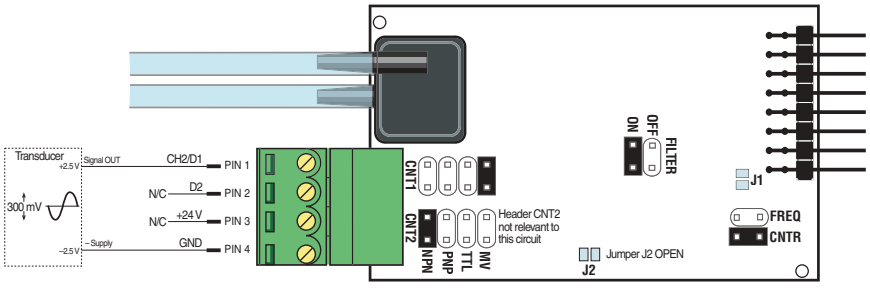
Example 2 – Monitoring Voltage Level Shifts



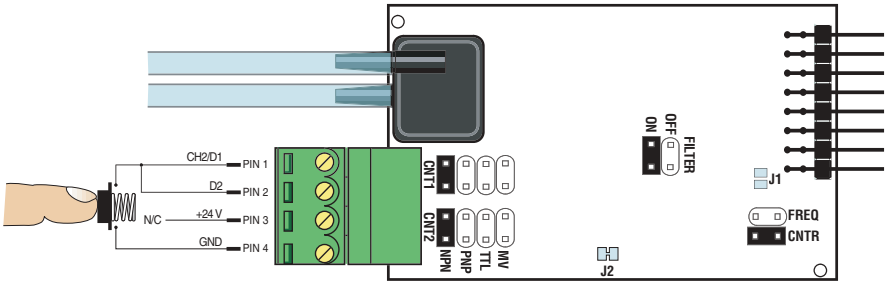
Example 3 – TTL Output Configured as a HS Down Counter



Example 4 – Transducer Input Configured as Up Counter



Example 5 – Switch Closure



DUAL DIRECT PRESSURE SENSOR INPUT MODULE

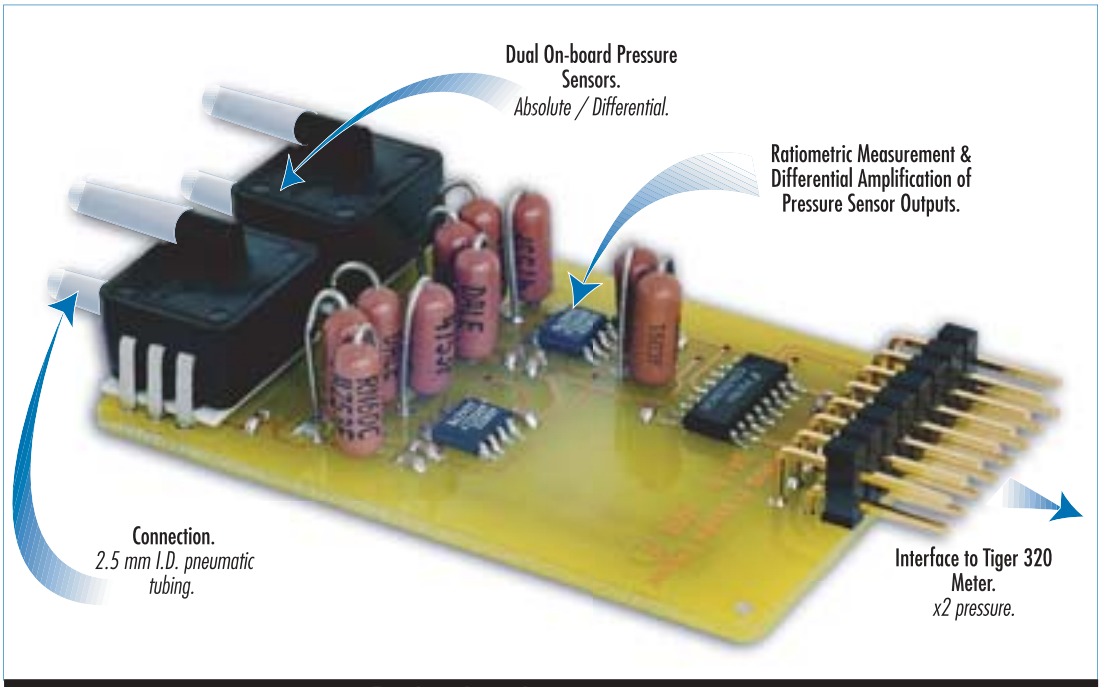
Order Code
IGYY

I	G		

Sensor Range	CH1	CH2
1 psi absolute	A	A
1 psi differential	B	B
5 psi absolute	C	C
5 psi differential	D	D
15 psi absolute	E	E
15 psi differential	F	F
30 psi absolute	G	G
30 psi differential	H	H
100 psi absolute	J	J
100 psi differential	K	K

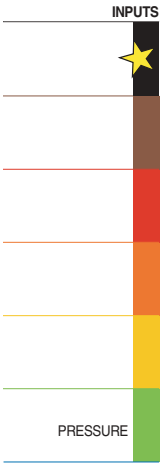
For example, IGCD:
CH1 5 psi, absolute pressure.
CH2 5 psi, differential pressure.

Compatible With: TIGER



Dual on-board pressure sensors.

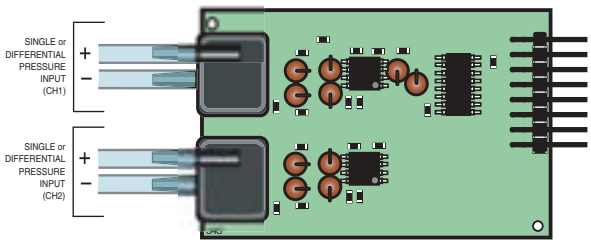
The cost effective solution for pressure applications requiring monitoring and process control of non-corrosive working fluids such as air, dry gases and similar. Two independent pressure sensors are available in absolute and differential combinations in five pressure ranges covering 0 to 100 psi. Select your type and range from the order code listed above.

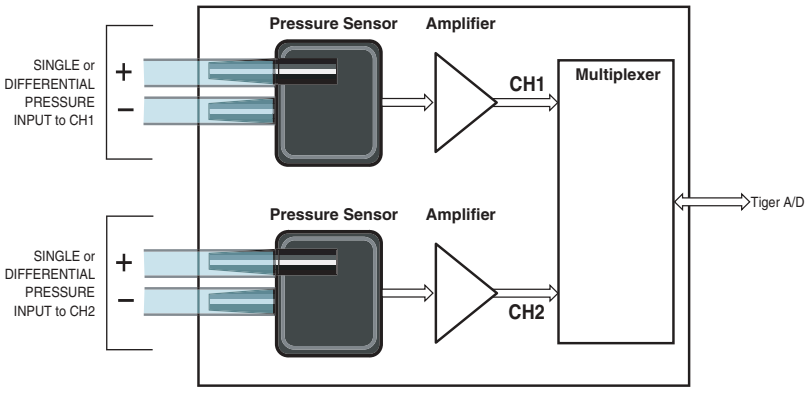


Hardware Module Specifications

Pressure Inputs for Channel 1 & Channel 2	Absolute or differential connections via 2.5 mm I.D. pneumatic tubing.
Pressure Ranges	0-1, 0-5, 0-15, 0-30, and 0-100 psi. Temperature compensated 0-50 °C, ± 4% full scale
Max Pressure any Port	150 psi.
Repeatability	± 0.2% full scale typical.
Linearity/Hysteresis	± 0.2% full scale typical.

Connector Pinouts





Description

The Tiger 320 Series controller has four input channels capable of processing almost any input signal type. The dual direct pressure sensor input module IGYY uses only channels 1 and 2.
The input module processes the pressure inputs via built-in pressure sensors capable of processing an absolute or differential pressure input. The pressure signals are then fed to CH1 and CH2 for further processing. Gain setting resistors are factory installed to optimize the full scale output for each pressure range. Contact Texmate when ordering to discuss your pressure range requirements.

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UNIV. DIRECT PRESSURE SENSOR INPUT MODULE

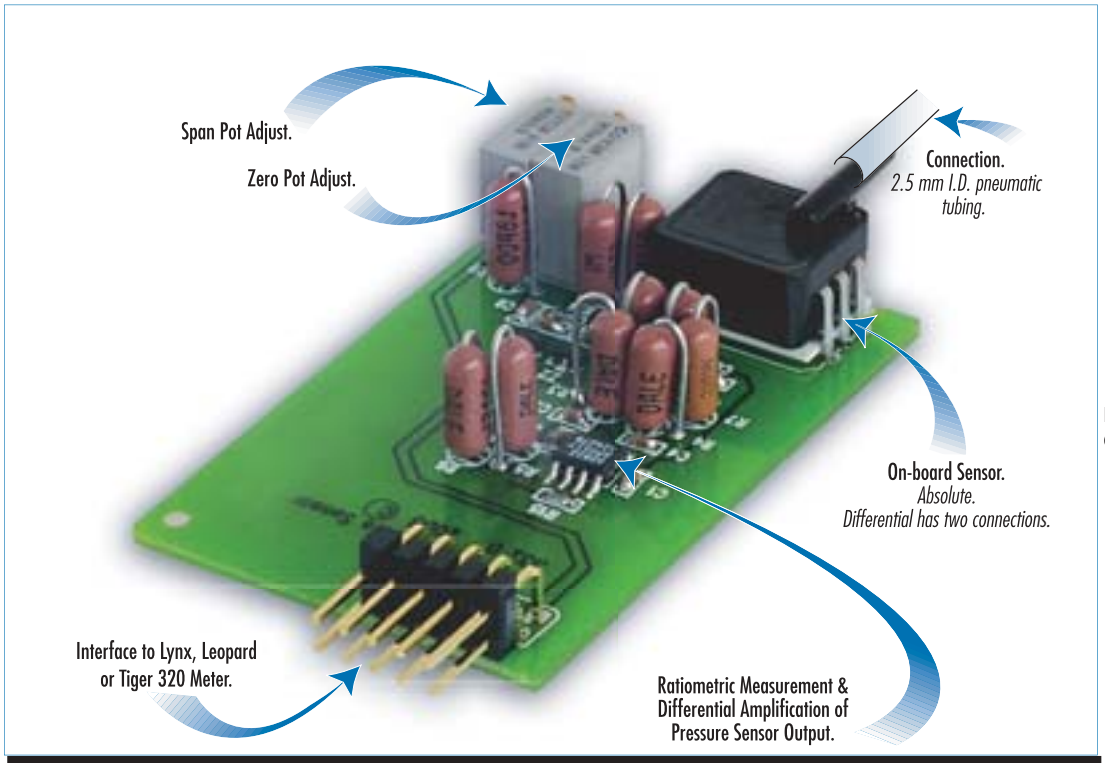
Order Code
IGYZ

I	G		Z

Sensor Range	CH1
Not available	A
1 psi differential	B
Not available	C
5 psi differential	D
15 psi absolute	E
15 psi differential	F
30 psi absolute	G
30 psi differential	H
100 psi absolute	J
100 psi differential	K

The last digit of the order code is always Z.

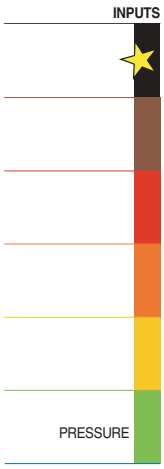
For example, IGDZ:
CH1 5 psi, differential pressure.



An on-board pressure sensor module for Texmate's range of modular meters.

Compatible With:



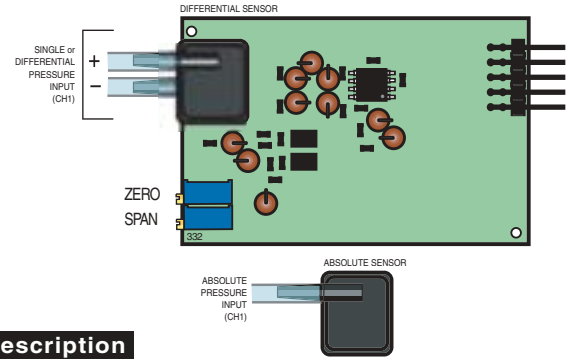


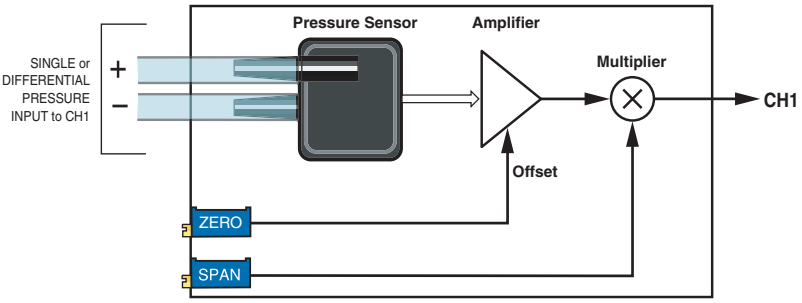
A cost effective solution for pressure applications requiring monitoring and process control of non-corrosive, non-ionic working fluids such as air, dry gases and similar. The pressure sensor is available in absolute and differential models and pressure ranges from 0 to 100 psi. The input module interfaces directly with Lynx, Leopard, and Tiger 320 Series meters.

Hardware Module Specifications

Pressure Inputs Channel 1	Absolute or differential connections via 2.5 mm I.D. pneumatic tubing.
Pressure Ranges	0-1, 0-5, 0-15, 0-30, and 0-100 psi. Temperature compensated 0-50 °C, ± 0.4% Full Scale.
Max Pressure any Port	150 psi.
Repeatability	± 0.2% Full Scale typical.
Linearity/Hysteresis	± 0.2% Full Scale typical.
Output Voltage	± 2 V Full Scale.
Zero Adjust	Zero potentiometer.
Span Adjust	Span potentiometer.

Connector Pinouts





Description

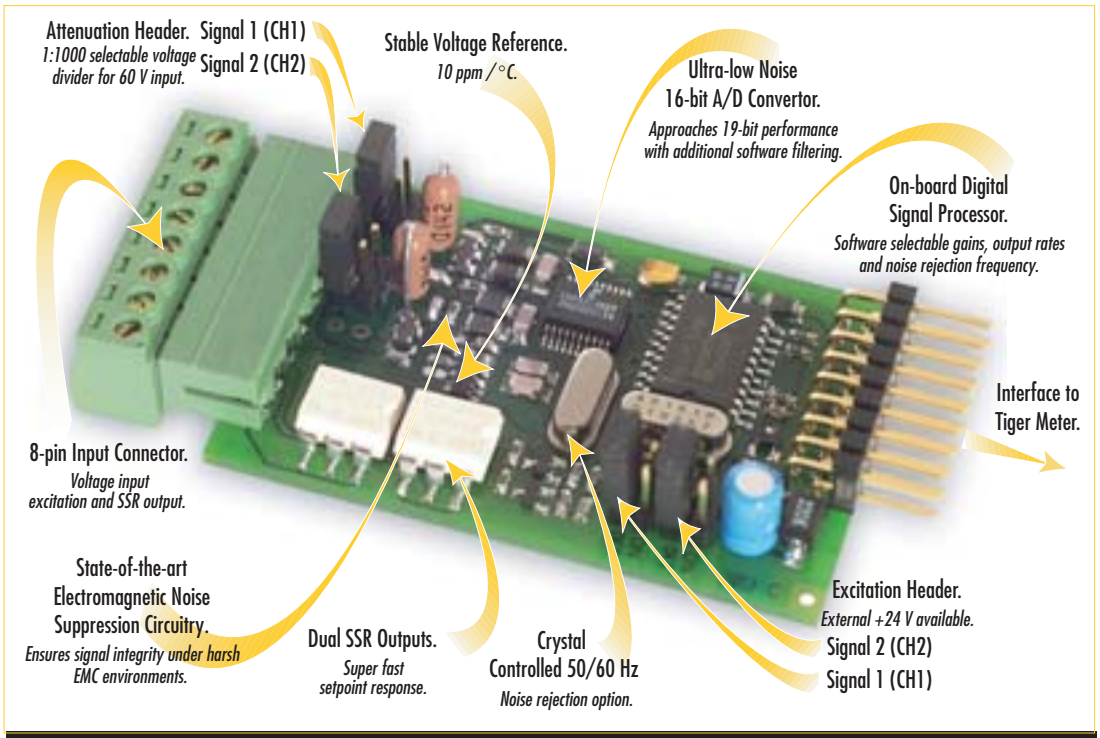
This module interfaces directly with Texmate's Tiger, Leopard, and Lynx range of modular controllers and panel meters. It has a single output that is an amplified and scaled version of the on-board direct pressure sensor.
The sensor can be ordered as either an absolute or differential pressure type. Gain setting resistors are factory installed to optimize the full scale output for each pressure range.
Contact Texmate when ordering to discuss your pressure range requirements.

16-BIT SMART DC VOLTS INPUT MODULE

Order Code

ISD1 (50 Hz Rejection)
ISD2 (60 Hz Rejection)
ISD3 (50 Hz with SSRs)
ISD4 (60 Hz with SSRs)

Compatible With: TIGER



The answer to accurate voltage measurements and switched relay outputs.

When faced with the task of supplying precise and stable voltage measurements over a large dynamic range, the automation engineer now has the solution at his fingertips.
Combined with the Tiger 320 Series operating system, this module is the smart design solution for many and varied control applications.

INPUTS

- ★ Smart Precision DC Volts
- High Speed S.S.R. Output
- High Accuracy
- Amps DC from Shunt
- Resistance

Hardware Module Specifications

Input Channels	1 of 2 inputs available and chosen through software.
Input Range	Software selectable from ± 25 mV to ± 2 V for signal (1) and fixed ± 1 V for signal (2), + 2.1 V common mode.
Attenuation Header	1: 1000 voltage divider on both inputs for ≤ 60 V with optional current shunt configuration.
Excitation Header	+ 24 V (50 mA) available to power external sensors.
Input Sensitivity	0.08 µV / count maximum.
Zero Drift	± 40 nV / °C typical.
Span Drift	± 5 ppm / °C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input Noise	160 nVp-p typical at 1 Hz output rate.
Signal processing Rate	50 Hz maximum, 1 Hz minimum.
Solid Sate Relays (SSR)	17 Ω, 140 mA (± 400 V breakdown).

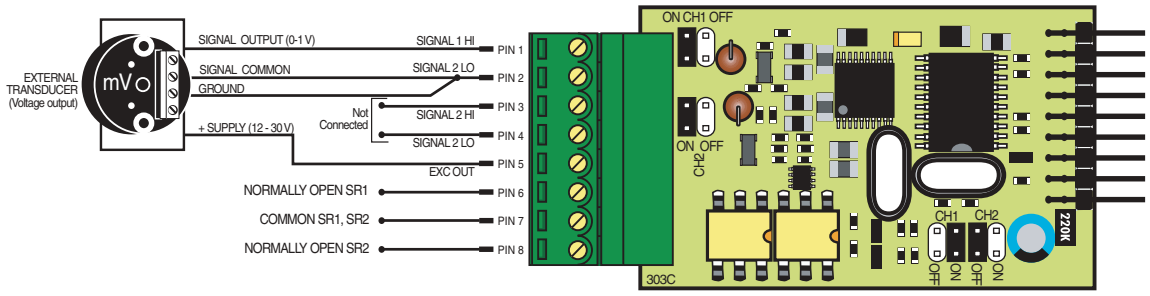
Software Module Features

Output Rates	A choice of average response outputs, 1-50 Hz.
Gain Select	A choice of 7 voltage ranges from ± 25 mV to ± 2 V.
Frequency Select	50 / 60 Hz noise rejection (Software selectable).
Setpoint Switching	High speed (>1 ms) SSR outputs under setpoint control.

Some Relevant Operating System Features

Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizer and Serial Printing.

Connector Pinouts



Description

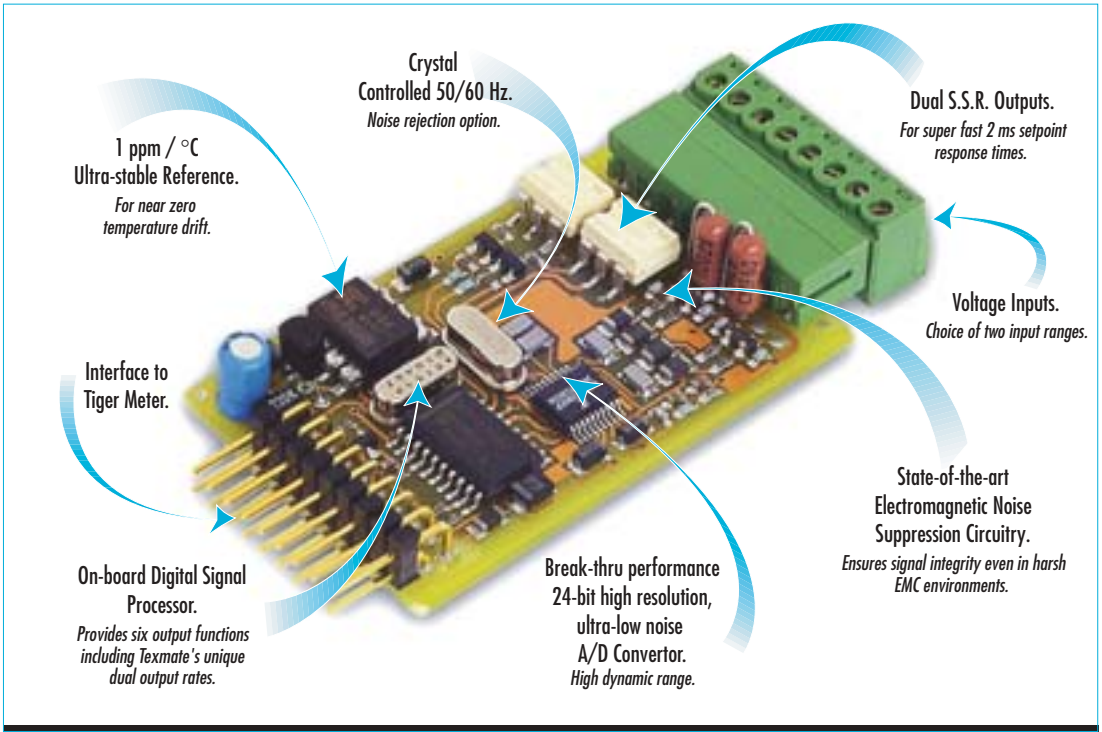
The meter uses three smart setup registers to configure all smart input modules. Input modules ISD1 and ISD2 require smart register 1 to be set up, while input modules ISD3 and ISD4 require smart register 1 and smart register 2 to be set up. All four modules are single input signal modules with the choice of two channels. ISD3 and ISD4 also has two solid state relay (SSR) outputs driven by SP5 and SP6 control. SSR1 is controlled by SP5 and SSR2 is controlled by SP6.

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24-BIT SMART DC VOLTS INPUT MODULE

Order Code
ISD5 (50 Hz Rejection)
ISD6 (60 Hz Rejection)
ISD7 (50 Hz with SSRs)
ISD8 (60 Hz with SSRs)

Compatible With: TIGER



INPUTS
High Resolution
High Accuracy
High-speed S.S.R. Output
Volts DC
Millivolts DC
Amps DC with Ext. Shunt

For the first time, an exceptionally high performance mV/V controller is available at a panel meter price.

This input module outperforms many laboratory benchtop meters and calibrators.
Where absolute accuracy is a must, this is the module to use.

Hardware Module Specifications

Input Range	Software selectable from 30 mV to 60 V.
Input Sensitivity	5 nV/ count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 3 ppm/ °C of F.S. (typical) for 30 mV to 2 V ranges. ± 30 ppm/°C of F.S. (typical) for 60 V range.
Non-linearity	± 0.002% of full scale maximum.
Input Noise	40 nV p-p typical at 1 Hz output rate (30 mV range).
SSR Processing Rate	960 Hz maximum 1 Hz minimum.
Tiger 320 Processing Rate	10 or 100 Hz.
Solid State Relay (SSR)	17 Ω, 140 mA (± 400 V Breakdown).

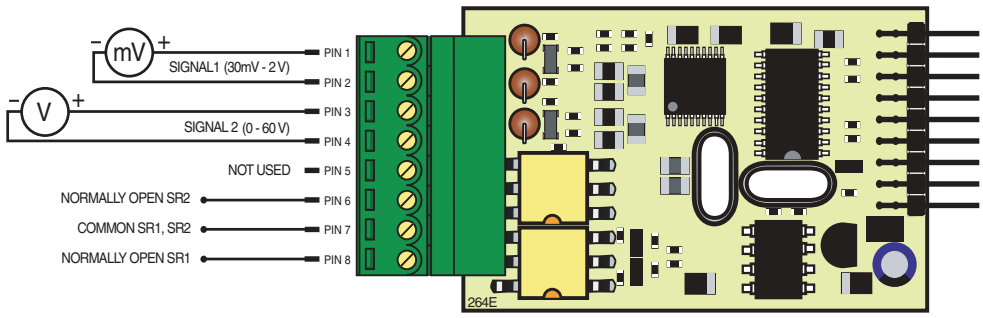
Software Module Features

Dual output rates	Rapid and average response outputs.
Peak & Valley Outputs	Monitoring over and under-shoots.
Capture Output	Hardwire signal capture.
Rate of Change Output	Useful for fine tuning reaction times.

Some Relevant Operating System Features

Smart Averaging.
Setpoints.
Linearization.
Macro Compiler for complex math Functions.

Connector Pinouts



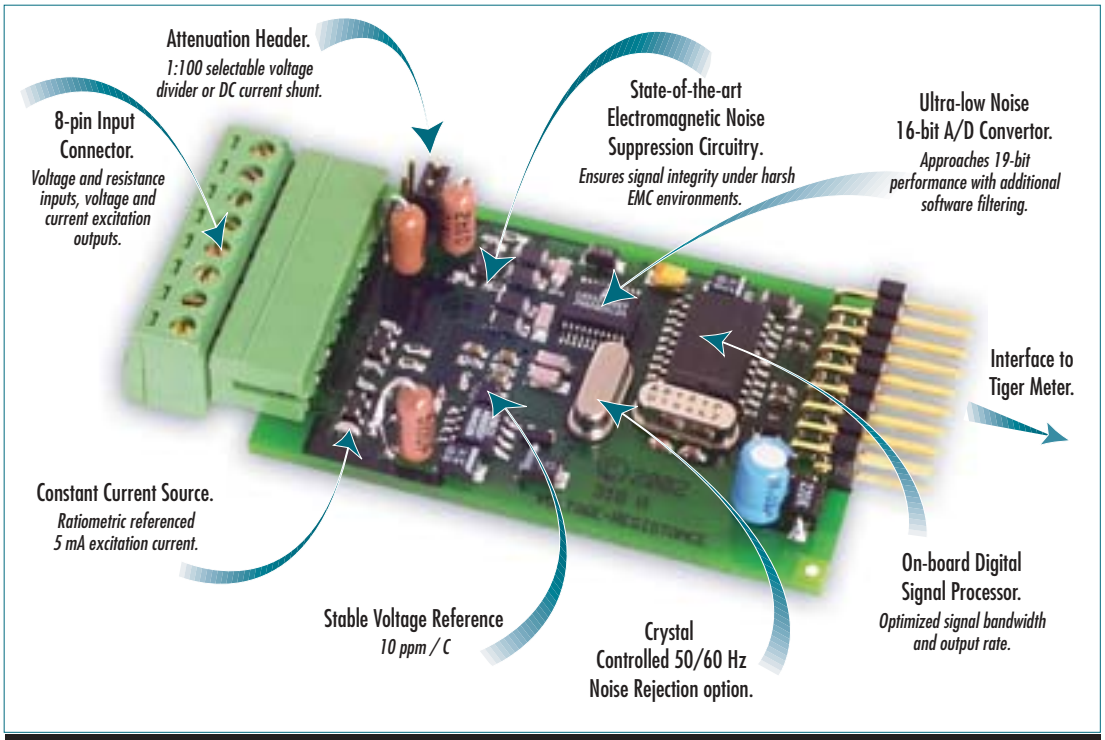
Description

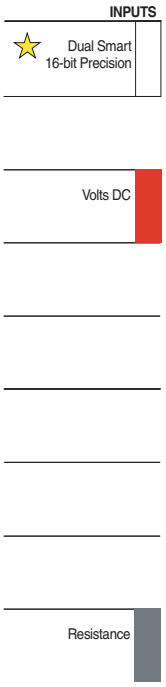
The meter can be connected to two input ranges, but perform signal conditioning on only one. The required input range is selected through software configuration.
ISD5 is a crystal controlled 50 Hz frequency range input module and ISD6 is a crystal controlled 60 Hz frequency range input module.
ISD7 is a crystal controlled 50 Hz frequency range input module with two solid state relay (SSR) outputs. ISD8 is a crystal controlled 60 Hz frequency range input module with two SSR outputs.
The SSR outputs are known as smart relay 1 (SR1) and smart relay 2 (SR2) and are controlled through meter setpoints SP5 and SP6 respectively. In their unenergized state, the SSRs can be configured in software to be either a normally open (NO) or normally closed (NC) contact and can be switched at the selected averaged input signal or rapid response rate.
The meter uses three smart setup registers to configure all smart input modules. ISD5 and ISD6 require only smart register 1 to be set up, while ISD7 and ISD8 require smart register 1 and smart register 2 to be set up.
This module produces six output registers. One of these registers can be transferred to Channel 1 via Code 2, the same or another register to Channel 2 via Code 4, the same or another register to Channel 3 via Code 5, and the same or another register to Channel 4 via Code 6.

VOLTAGE & RESISTANCE SMART MODULE

Order Code
ISD9

Compatible With: TIGER





The smart answer to precise resistance & voltage measurement.

Initially designed to measure copper winding resistance to within fractions of an ohm and the surface temperature using an infrared sensor. When coupled with the Tiger 320 Series operating system this module, and its on-board current and voltage excitation outputs, satisfy OEMs wishing to accurately measure a range of resistance and voltage/current signals.

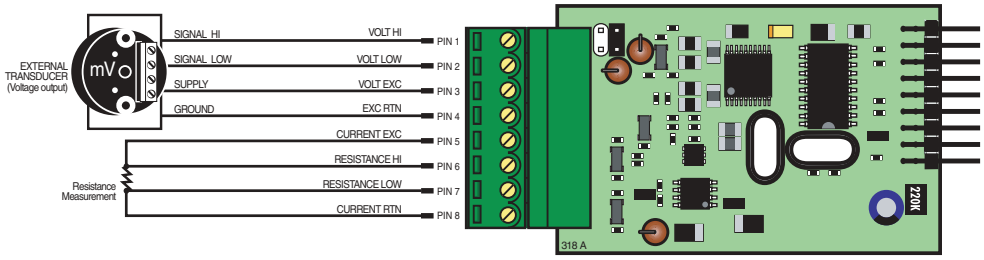
Hardware Module Specifications

A/D Convertor	Dual channel ultra-low noise 16-bit A/D with effective 19-bit resolution in post processing software.
Input Sensitivity	0.08 µV/count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ °C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input Noise	160 µVp-p typical at 1 Hz output rate.
Voltage Reference	+ 2.5 V, 10 ppm.
Voltage Input	Selection of ranges ± 25 mV to ± 2 V, 2.1 V common mode.
Attenuation Header	1:100 voltage ÷ for voltage inputs ≤ 60 V or optional mA current shunt configuration.
Excitation Voltage	+ 24 V (50 mA) to drive external sensors.
Resistance Input	Designed to measure voltage drop across small resistances (typically ~10 Ω), +3 V common mode.
Resistance Resolution	1 mΩ (10 Ω load resistor).
Excitation current	5 mA constant current source to drive external resistor. Ratiometrically referenced to A/D for precision low-drift resistance measurement.

Software Module Features

Output Rates	A choice of average response outputs, 1-20 Hz.
Gain Select	7 voltage ranges to optimize signal resolution.
Frequency Select	50 / 60 Hz noise rejection. Software selectable.

Connector Pinouts



Description

The meter has three smart setup registers to configure all smart input modules.
ISD9 requires smart registers 1 and 2 to be configured. Because this is a dual input module, measuring voltage and resistance, independent sensor inputs can be software selected for Tiger 320 Series meter channels 1, 2, 3, and 4. This module produces two output registers. One of these registers can be transferred to Channel 1 via Code 2, the same or another register to Channel 2 via Code 4, the same or another register to Channel 3 via Code 5, and the same or another register to Channel 4 via Code 6.

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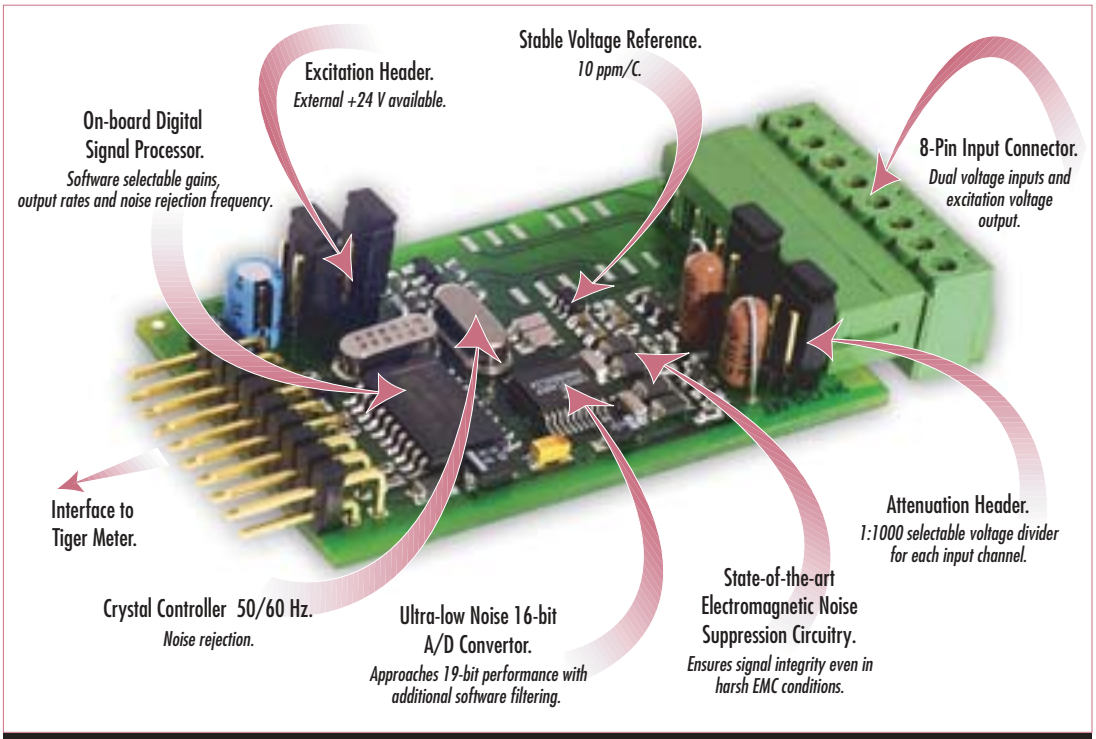
16-BIT SMART DUAL DC VOLTS INPUT MODULE

Order Code

ISDA (50 Hz Rejection)
ISDB (60 Hz Rejection)

Compatible With: TIGER

INPUTS
- Smart Dual Precision DC Volts
- Volts DC
- Amps from DC Shunt



An extremely flexible and powerful dual input mV/V Input Module.

This input module comes with a myriad of hardware and software options to satisfy the requirements of precision voltage measurement and dual input functionality. When combined with the Tiger 320 Series operating system, the OEM has a powerful solution to applications ranging from small voltage measurement through to process control, all at a very affordable price.

Hardware Module Specifications

Input Range	Software selectable from 25 mV to 2 V, +2.1 V common mode. Maximum 60 V using signal attenuation header.
Input Channels	Dual with independent gains. Zero X-talk between channels each having 19-bit effective resolution.
Input Sensitivity	0.08 µV/Count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ °C of full scale maximum.
Non-linearity	± 0.003 % of full scale maximum.
Input noise	160 nVp-p typical at 1 Hz output rate.
Signal Processing Rate	20 Hz maximum, 1 Hz minimum.
Excitation Voltage	+24 V (50mA) available to power external sensors.

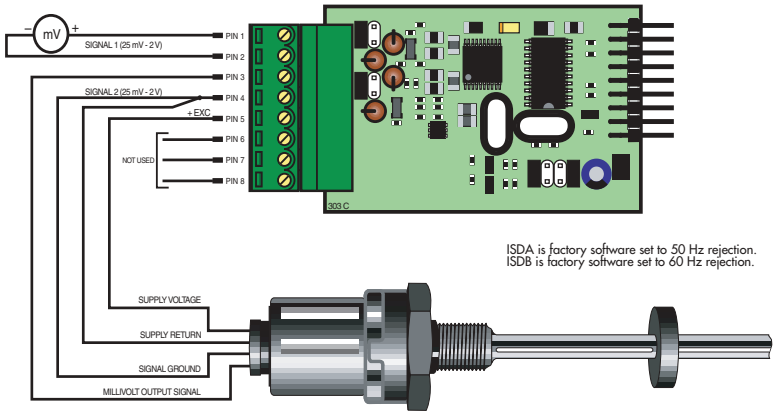
Software Module Features

Output Rates	Choice of 4 average response outputs, 1-20 Hz.
Gain Select	Choice of 7 voltage ranges from ± 25 mV to ± 2 V.
Frequency Select	50/60 Hz noise rejection (Software selectable).

Some Relevant Tiger 320 Series Operating System Features

Auto Zero Maintenance.
Set TARE, Reset TARE.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizer and Serial Printing.

Connector Pinouts



ISDA is factory software set to 50 Hz rejection.
ISDB is factory software set to 60 Hz rejection.

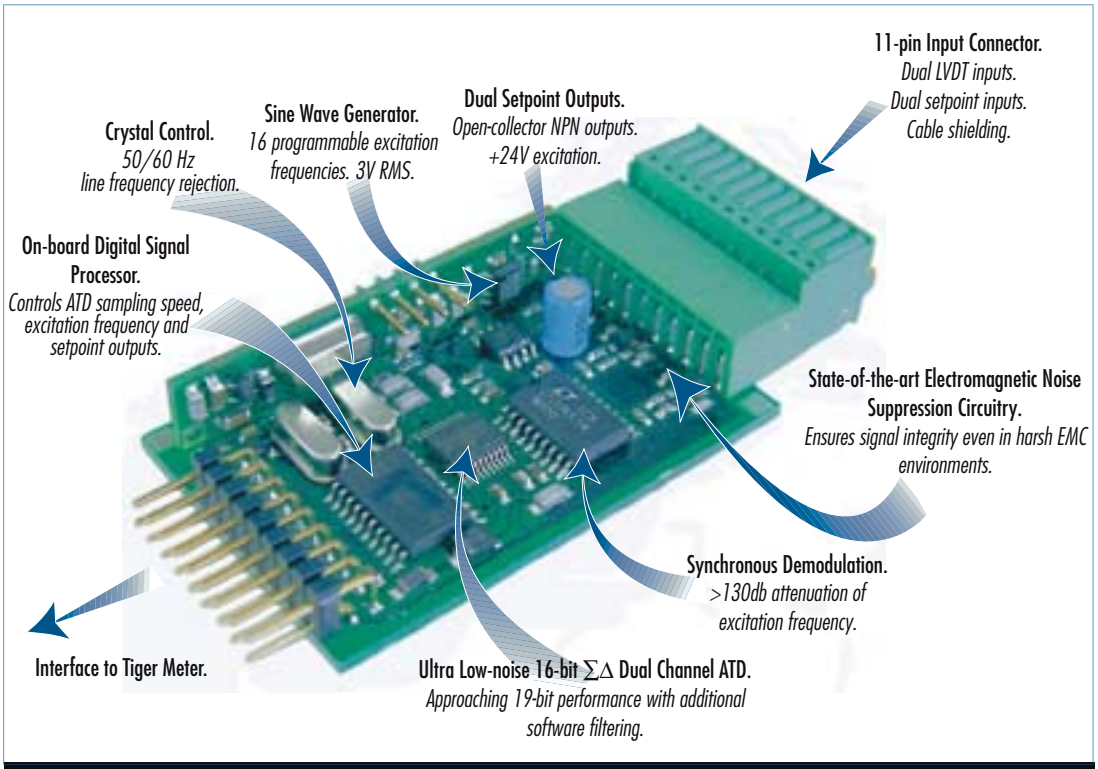
Description

The meter has three smart setup registers to configure all smart input modules.
ISDA and ISDB require smart registers 1 and 2 to be configured. Because this is a dual input module, independent sensor inputs can be software selected for Tiger 320 Series meter channels 1, 2, 3, and 4. This module produces two output registers. One of these registers can be transferred to Channel 1 via Code 2, the same or another register to Channel 2 via Code 4, the same or another register to Channel 3 via Code 5, and the same or another register to Channel 4 via Code 6.

DUAL LVDT SMART INPUT MODULE

Order Code
ISL1 (50 Hz Rejection)
ISL2 (60 Hz Rejection)

Compatible With: TIGER



A high performance multi-channel LVDT input module.

INPUTS
- SPECIAL
- PROCESS 4 / 20 mA 1 / 5 V
- VOLTS AC / DC
- AMPS AC / DC
- WATTS AC / DC
- LOAD-CELL PRESSURE
- FREQUENCY RPM, Pulse, Counter
- TEMPERATURE T/C, RTD
- RESISTANCE

A dual LVDT signal conditioning input module interfaced to the Tiger 320 Series Operating System provides programmable excitation frequency, ATD sampling and averaging rate, and high-speed setpoint outputs. Synchronous demodulation at multiples of line frequency ensures high frequency response applications unhindered by carrier noise.

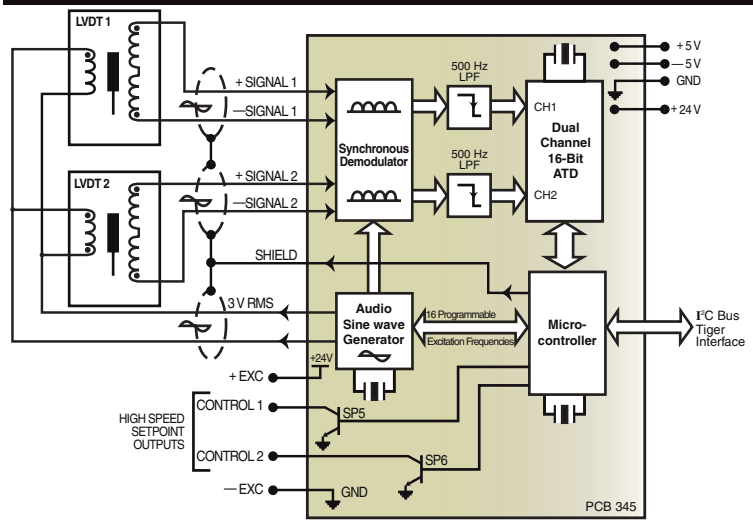
Hardware Module Specifications

Excitation Voltage	3 V RMS sine wave, Zero DC component THD < 2% (1.2 KHz).
Excitation Frequency	x 16 available (1.2 KHz to 11.52 KHz) as multiples of 50/60 Hz line frequency. Crystal locked, software driven.
Temperature Coefficient	± 50ppm/°C full scale (typical).
Dual LVDT Inputs	30KΩ input impedance. Synchronous demodulation of excitation carrier. >130dB rejection of excitation carrier.
Frequency Response	500Hz (-3dB) low-pass filter.
Analog to Digital	Dual channel ∑Δ A/D convertor approaching 19-bit resolution. Ratiometric operation relative to excitation voltage magnitude.
High-speed Control Outputs	Dual high speed open collector transistor outputs 600mA max. under setpoint control (SP5/SP6).

Software Module Specifications

Dual Output Rates	Rapid & average response outputs. 1Hz, 4Hz, 10Hz, 20Hz, averaged.
Single Fast Output	Single channel, increased signal to noise. 4Hz, 10Hz, 20Hz, 40Hz averaged.
Excitation Frequency	16 selectable frequencies.
Line Frequency Rejection	50/60 noise rejection.
High-speed Control Outputs	Choice of logic modes to control high speed setpoints.

Connector Pinouts



Description

ISL1 / ISL2 is a smart input module designed to drive and condition the signals from two LVDT transducers. The module contains two high-speed microcontrollers and a S D 16-bit dual channel A/D convertor. It communicates with the selected Tiger controller via the I2C data bus. One of the microcontrollers generates the sine wave for the LVDT excitation frequency. These frequencies are produced as multiples of the line frequency (either 50 Hz or 60 Hz). Up to 16 frequencies are available and are selected using the Tiger controller setup.

The output to the primary coil of both LVDTs is a 3 V RMS sine wave. The received LVDT signals are synchronously demodulated and filtered to remove the carrier frequency. The S D 16-bit A/D convertor has over 130 dB noise rejection at the excitation frequencies and is capable of 40 Hz averaged output on 45 samples.
Two open collector NPN transistors are available as high-speed controlled outputs. Tiger controller setpoint SP5 controls output CONTROL 1 and SP6 and controls output CONTROL 2.

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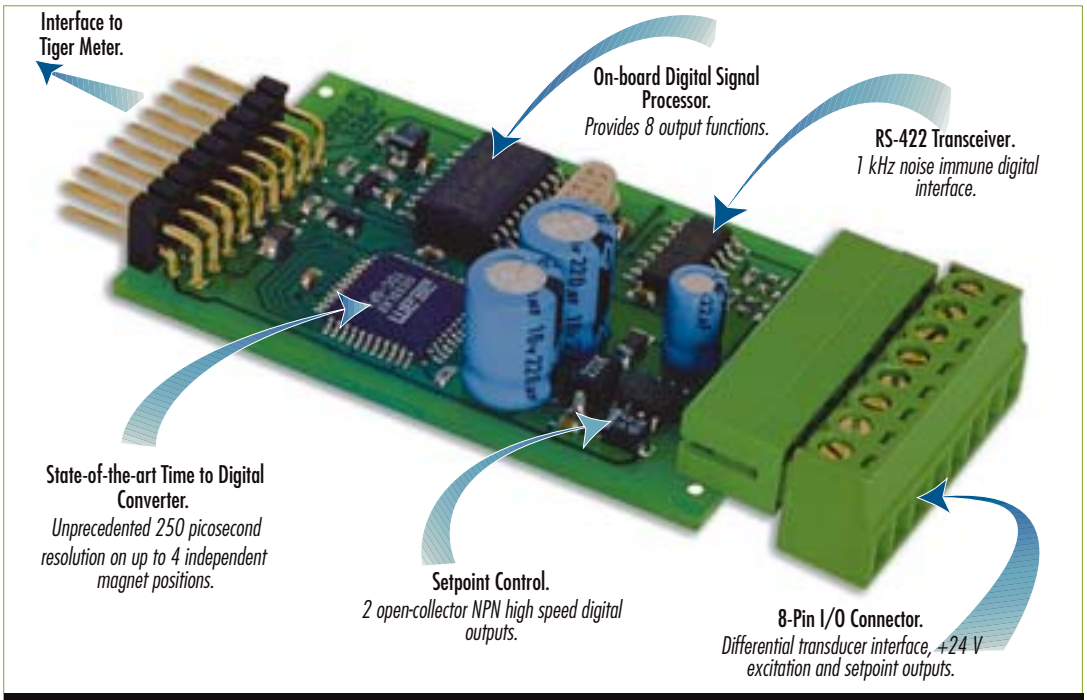
MAGNETOSTRICTIVE SMART INPUT MODULE

Supports up to 4 magnets with absolute position and distance between each magnet.
With 3 or less magnets, velocity, position and distance measurements are supported.

Order Code
ISM1

Compatible With: TIGER

INPUTS
- LINEAR DISPLACEMENT
- PRESSURE
- FREQUENCY RPM, Pulse, Counter



Solutions in time for ultra-precise contact-less registration of linear displacement.

Redefining linear displacement measurements, the ISM1 smart input module provides sub-micro meter resolution over the entire length of the positioning equipment. Interfaced with industry standard micro-pulse magnetorestrictive transducers, the combination of the ISM1 and the Tiger 320 operating system deliver four independent linear displacements, four independent rates of change, and two high speed setpoint controls.

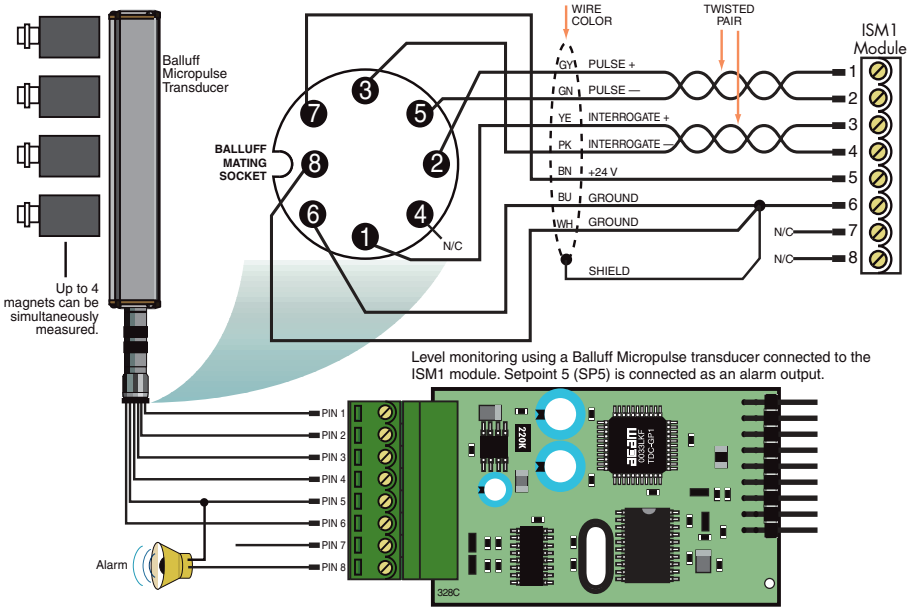
Hardware Module Specifications

TDC	ACAM Time-to-digital convertor 250 ps time resolution (typical).
Displacement Resolution	In principle 0.7 µm or equivalently 28 millionth of an inch.
Multi-hit Capability	Up to 4 independent floating magnets read concurrently (representing 4 displacements).
Transducer Interface	RS422 differential for interrogate & pulse.
Sample Rate	Stroke length dependent: 1 kHz < 2000 mm stroke 500 Hz > 2000 mm stroke.
Transducer Type	Designed to operate with digital interface leading/ trailing-edge pulse magnetostrictive transducers.
Digital Outputs	Two latched digital outputs available (open-collector NPN transistor type) operated from setpoints SP5 & SP6.

Macro Software Inputs

Gradient (µs/inch)	Resolution correction for independent transducer scale factors.
Units	Select inches or millimeters.
Transducer Type	Enter leading or trailing edge received pulse format.
Displacement	Selectable 1-4 independent position calculations.
Velocity	Selectable 1-4 independent velocity calculations.
Sample Rate	1 kHz, 500 Hz or 200 Hz available.
Setpoint Control	Choice of 8 setpoint sources and inverted logic for latched digital outputs.

Connector Pinouts



Description

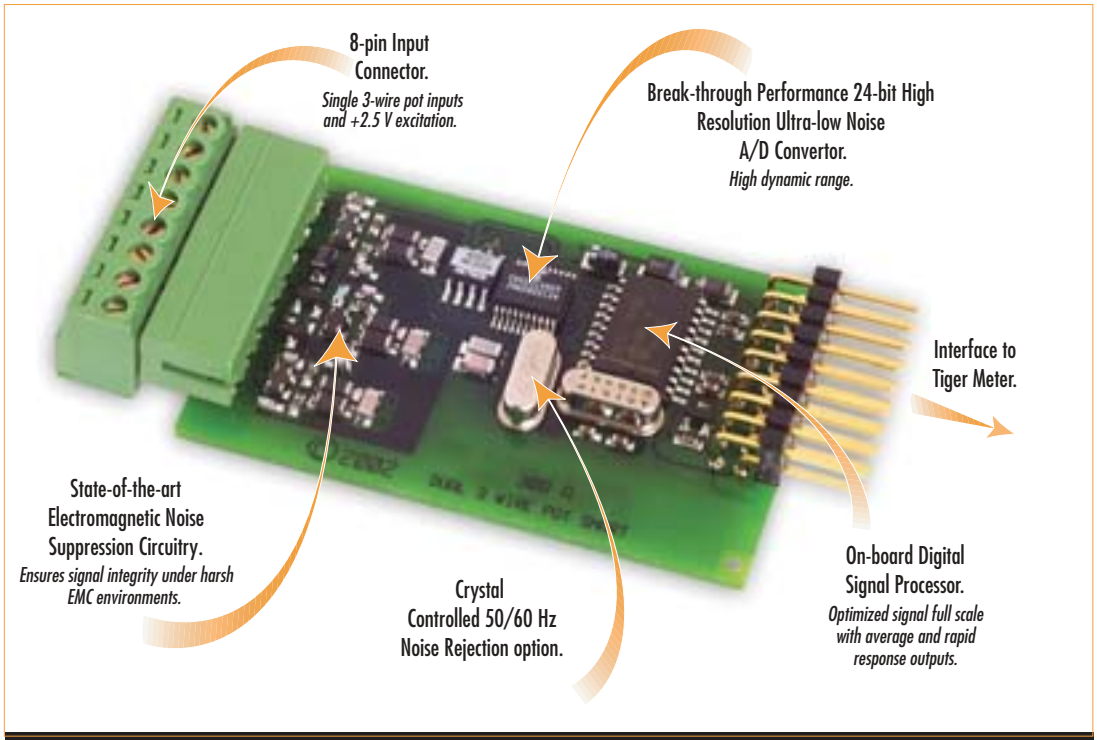
The Texmate ISM1 magnetostrictive smart input module is designed to operate with 1 to 4 magnets on most magnetostrictive transducers that have a digital interface with a leading or trailing-edge start/stop pulse. These include the following manufacturers of magnetostrictive transducers: •Balluff •Gefran •Novotechnik •MTS Systems Corporation •SanTest •Patriot Sensors and Controls Corp •TR Electronic

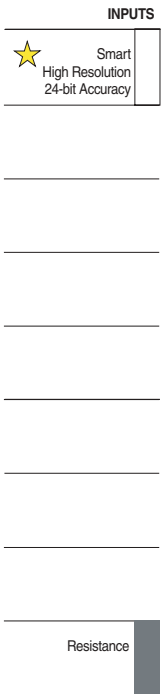
As an example, the ISM1 magnetostrictive smart input module, shown on the left, interfaces directly with and supplies +24 V excitation voltage to a Balluff micropulse P-style magnetostrictive transducer. The ISM1 supports the P and M digital RS-422 output interface options and can be configured to receive either trailing-edge active (P Balluff option) or leading-edge active (M Balluff option) pulses.

SINGLE 3-WIRE POTENTIOMETER SMART MODULE

Order Code
ISR1 (50 Hz Rejection)
ISR2 (60 Hz Rejection)

Compatible With: TIGER





Incredible resolution for linear position transducer now available.

Designed exclusively for continuous linear displacement measurements, ISR1 and ISR2 provide unprecedented resolution with over 8,000,000 denominator counts available full scale.
Combined with the Tiger 320 Series operating system, the user has the design solution for the most demanding industrial applications.

Hardware Module Specifications

A/D Convertor	Single channel high performance 24-bit A/D with post processing signal averaging.
Input Sensitivity	0.02 µV/count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ °C of full scale maximum.
Non-linearity	± 0.002% of full scale maximum.
Input Noise	80 µVp-p.
Potentiometer Inputs	Single, + 2.5 V excitation (10 mA) ratiometric referenced to A/D.
Resolution	1:8,000,000 counts of full scale.
Frequency Select	ISR1 50 Hz; ISR2 60 Hz.

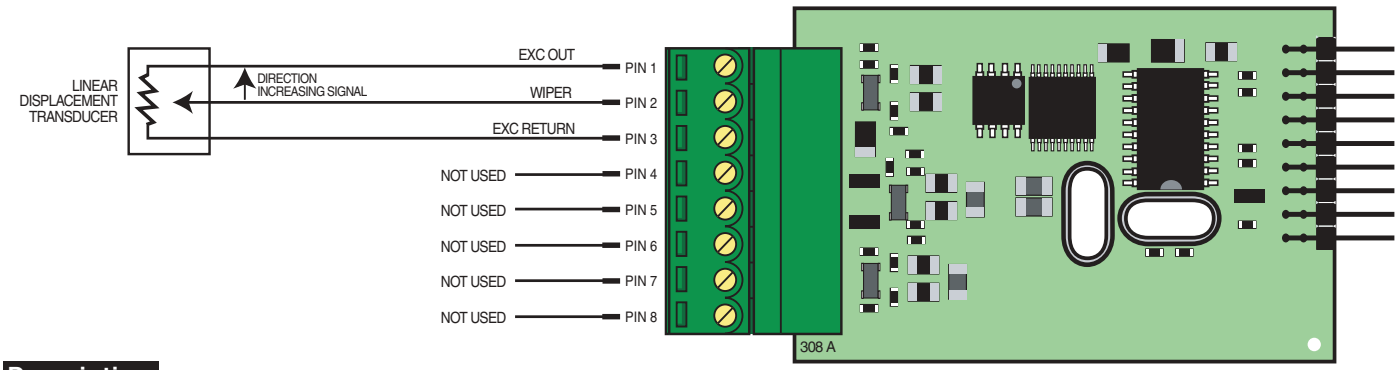
Software Module Features

Output Rates	A choice of average response outputs, 1-50 Hz.
Gain Select	Optimized for +2.5 Volt excitation.

Some Relevant Operating System Features

Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizator and Serial Printing.

Connector Pinouts



Description

The meter has three smart setup registers to configure smart input modules. ISR1 and ISR2 requires smart register 1 to be configured. The averaged potentiometer signal can be software selected for Tiger 320 Series meter channels 1, 2, 3, & 4. The signals can be transferred to Channel 1 via Code 2, to Channel 2 via Code 4, to Channel 3 via Code 5, and to Channel 4 via Code 6.

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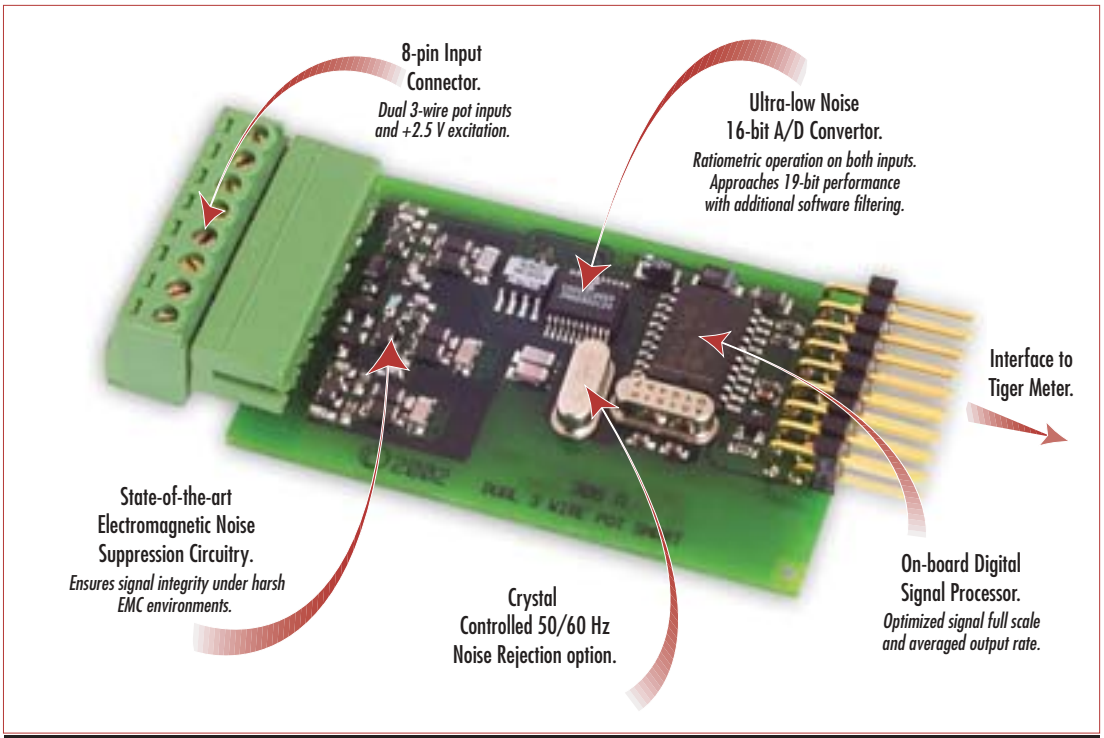
DUAL 3-WIRE POTENTIOMETER SMART MODULE

Order Code
ISR3 (50 Hz Rejection)
ISR4 (60 Hz Rejection)

Compatible With: TIGER

INPUTS
Dual Smart Precision Resistance

Resistance



The interface solution for linear position transducers.

With dual inputs, the ISR3 and ISR4 can excite and perform ratiometric data conversion on two linear potentiometers. Combined with the Tiger 320 Series operating system, this smart module is the design answer for industrial and process control applications involving accurate and continuous linear displacement and/or rate-of-change measurements at up to 100 Hz averaged output rate.

Hardware Module Specifications

A/D Convertor	Dual channel ultra-low noise 16-bit A/D with effective 19-bit resolution in post processing software.
Input Sensitivity	5 µV/count full scale maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ °C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input Noise	30 µVp-p typical at 1 Hz output rate.
Potentiometer Inputs	Dual, separate + 2.5 V excitation (10 mA). ratiometric referenced to A/D.
Potentiometer Resistance	1 kilohm to 100 kilohm (typical).
Resolution	1:100,000 counts of full scale.

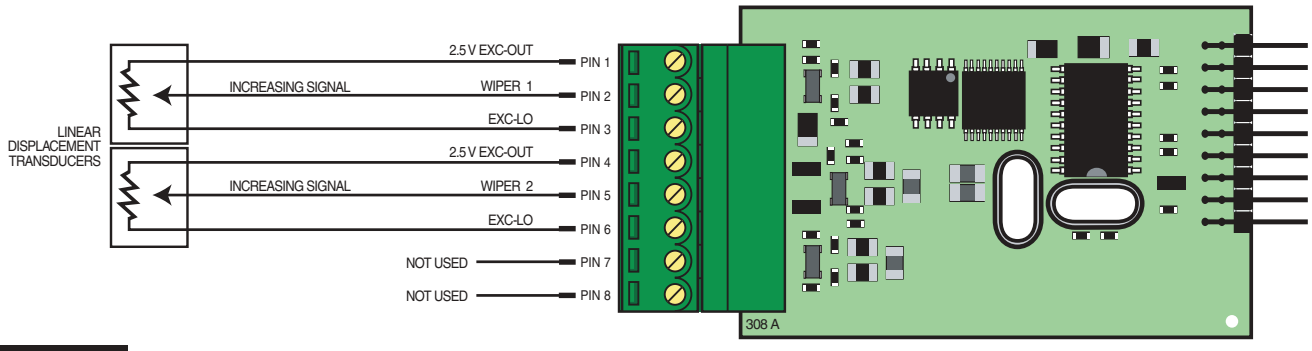
Software Module Features

Output Rates	1-20 Hz, POT 1 and POT 2. 50-100 Hz, POT 1 only.
Gain Select	Optimized for +2.5 Volt excitation.
Frequency Select	ISR3 50 Hz/ISR4 60 Hz noise rejection (Software selectable).

Some Relevant Operating System Features

Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizer and Serial Printing.

Connector Pinouts



Description

The meter has three smart setup registers to configure all smart input modules. The reference voltage and output rate for both input signals are configured in smart register 1.
Potentiometer signals, POT 1 and POT 2, are then individually software selected for a combination of two meter channels. Either signal can be selected for Channel 1 via Code 2, Channel 2 via Code 4, Channel 3 via Code 5, and Channel 4 via Code 6.

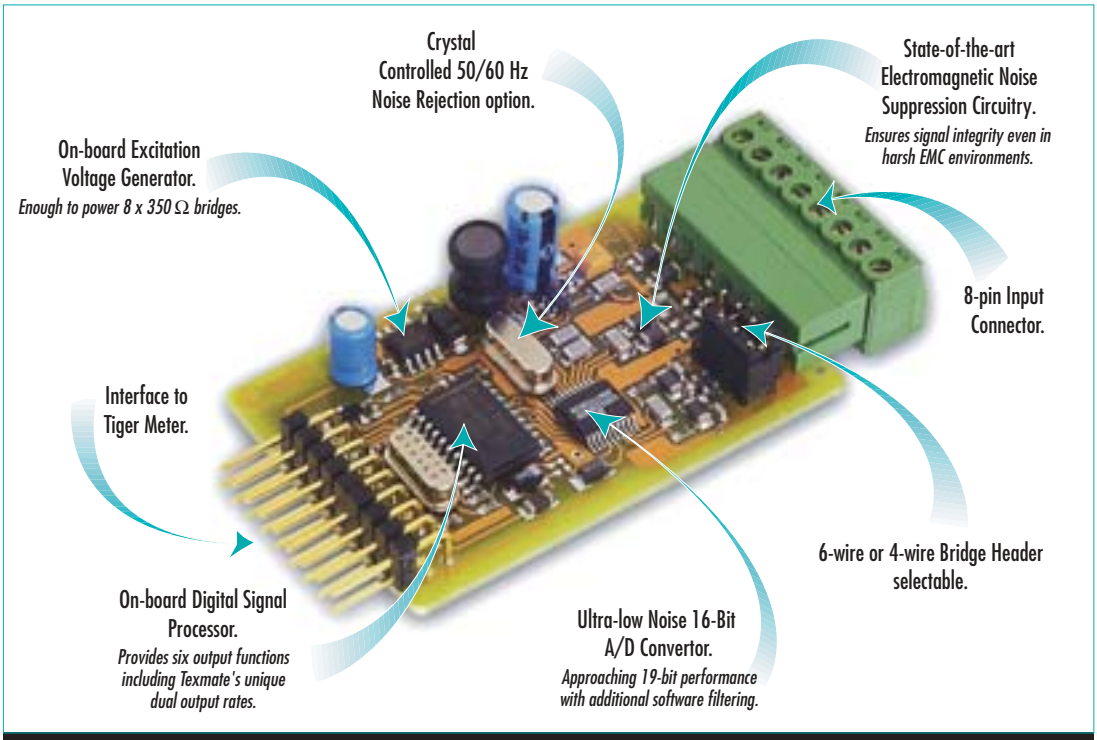
16-BIT SMART LOAD CELL INPUT MODULE

Order Code
ISS1 (50 Hz Rejection)
ISS2 (60 Hz Rejection)

Compatible With: TIGER

INPUTS
Smart
High 16-bit Resolution
High Accuracy

Load-cell
Pressure



For the first time, a high performance load cell controller is available at a panel meter price.

Combining this input module with the functionality of the Tiger 320 Series Operating System, results in a versatile, powerful controller. Now such tasks as weighing, bagging, batching, and continuous batching control can be performed.
In fact our customers have replaced multi-faceted control systems including weighing controllers, PLCs and timers with a single Tiger controller.

Hardware Module Specifications

Excitation	5 V DC, 130 mA maximum.
Input Range	Software selectable for sensors from 1 mV/V to 20 mV/V.
Input Sensitivity	0.08 µV/Count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ ° C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input Noise	160 nVpp typical at 1 Hz output rate.
Signal processing Rate	50 Hz maximum, 1 Hz minimum.

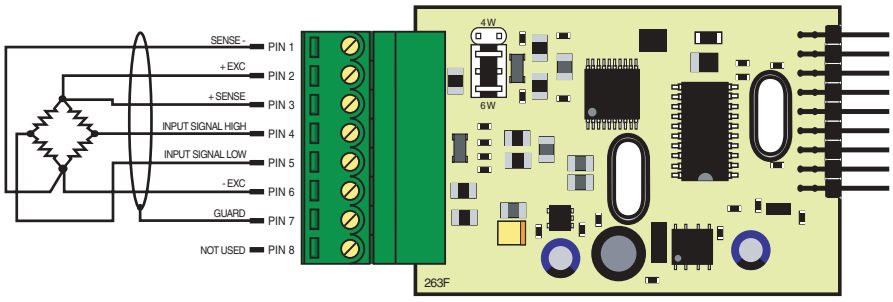
Software Module Features

Dual output rates	Rapid and average response outputs. Ideal for 2 and 3-speed weighing / bagging systems.
Peak & Valley Outputs	Monitoring over and under-shoots.
Capture Output	Hardwire signal capture.
Rate of Change Output	Useful for fine tuning reaction times.
Frequency Select	ISS1 50 Hz noise rejection; ISS2 60 Hz noise rejection.

Some Relevant Operating System Features

Auto Zero Maintenance.
Set TARE, Reset TARE.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizator and Serial Printing.

Connector Pinouts



Description

The meter uses three smart setup registers to configure smart input modules. ISS1 and ISS2 requires only smart register 1 to be set up. This module produces six output registers. One of these registers can be transferred to Channel 1 via Code 2, the same or another register to Channel 2 via Code 4, the same or another register to Channel 3 via Code 5, and the same or another register to Channel 4 via Code 6.

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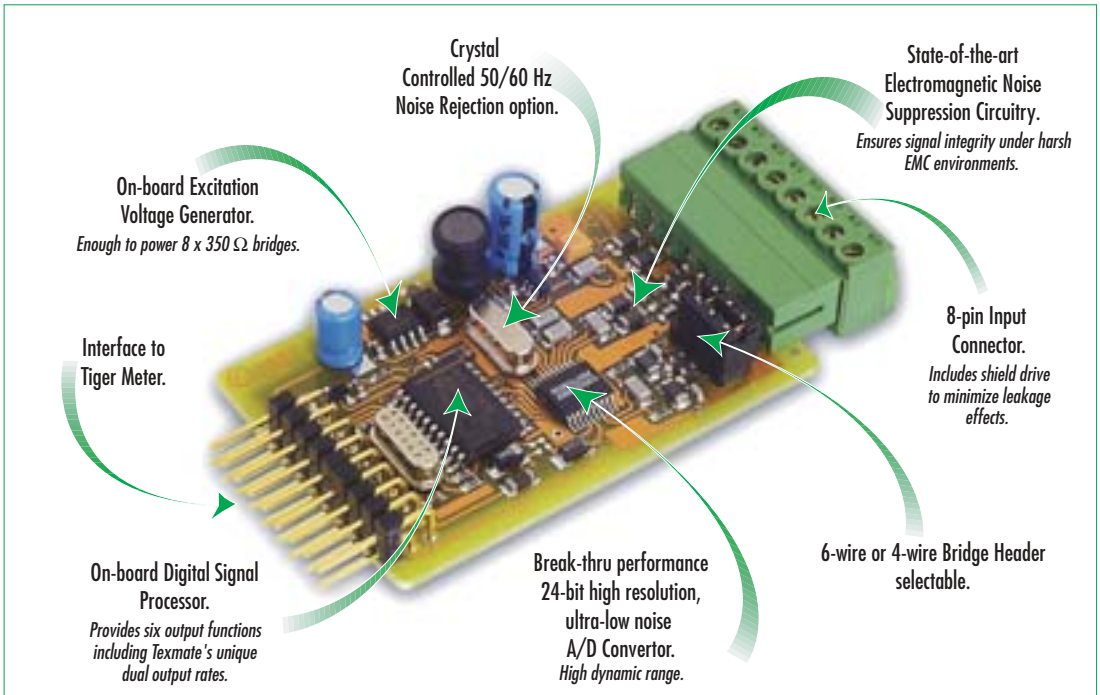
24-BIT SMART LOAD CELL INPUT MODULE

Order Code
ISS3 (50 Hz Rejection)
ISS4 (60 Hz Rejection)

Compatible With: TIGER

INPUTS
Dual Smart 24-bit Precision

Load-cell Pressure



An exceptionally high performance load cell controller is now available at a panel meter price.

Combining this input module with the functionality of the Tiger 320 Series 32-bit operating system results in a versatile, powerful controller. Now such tasks as weighing, bagging, batching, and continuous batching control can be performed.
In fact our customers have replaced multi-faceted control systems including weighing controllers, PLCs and timers with a single 320 Series controller.

Hardware Module Specifications

Excitation	5 V DC, 130 mA maximum.
Input Range	Software selectable for sensors from 1 mV/V to 20 mV/V.
Input Sensitivity	0.02 µV/Count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ ° C of full scale maximum.
Non-linearity	± 0.002% of full scale maximum.
Input Noise	80 nVp-p typical at 1 Hz output rate.
Signal Processing Rate	100 Hz maximum, 1 Hz minimum.
Line Frequency Rejection	ISS3 50 Hz (4.096 MHz xtal); ISS4 60 Hz (4.192 MHz xtal).

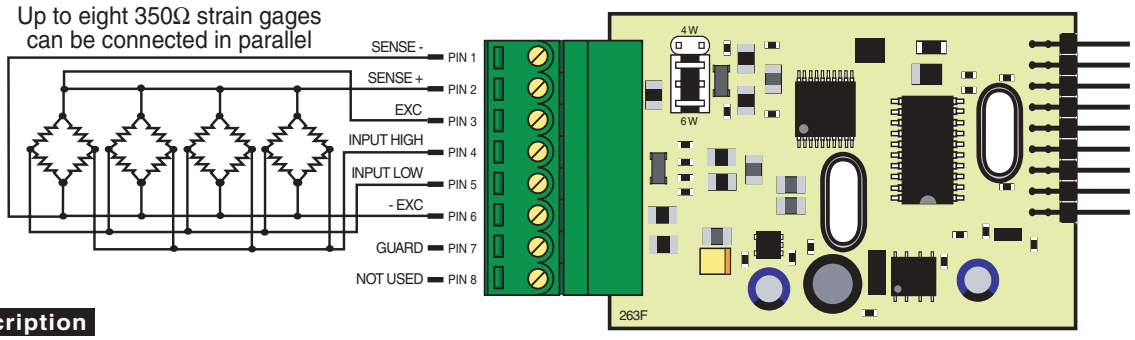
Software Module Features

Dual output rates	Rapid and average response outputs. Ideal for 2 and 3-speed weighing / bagging systems.
Peak & Valley Outputs	Monitoring over and under-shoots.
Capture Output	Hardwire signal capture.
Rate of Change Output	Useful for fine tuning reaction times.

Some Relevant Operating System Features

Auto Zero Maintenance.
Set TARE, Reset TARE.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizer and Serial Printing

Connector Pinouts



Description

The meter uses three smart setup registers to configure all smart input modules. ISS3 and ISS4 require only smart register 1 to be configured. These modules produce six output registers. One of these registers can be transferred to channel 1 via Code 2, the same or another register to Channel 2 via Code 4, the same or another register to Channel 3 via Code 5, and the same or another register to Channel 4 via Code 6.

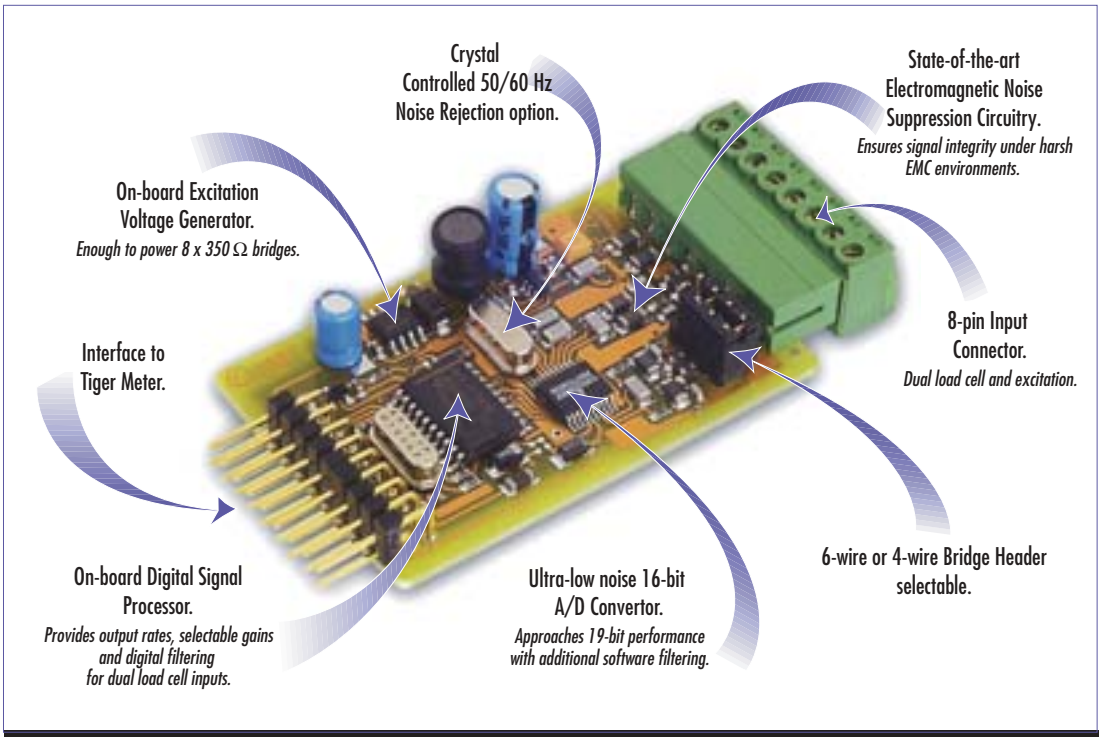
16-BIT SMART DUAL LOAD CELL INPUT MODULE

Order Code
ISS5 (50 Hz Rejection)
ISS6 (60 Hz Rejection)

Compatible With: TIGER

INPUTS
Smart Dual Channel Precision

Dual Channel Load-cell Pressure



The revolution in intelligent load cell controllers continues with our dual input module.

This powerful input module defines the next generation of intelligent load cell controllers, encapsulating high performance and precision measurement with dual input functionality.

When combined with the Tiger 320 Series operating system, the operator has all the solutions to weighing, bagging and continuous batching control applications. All these features plus the bonus of dual load cell inputs make this module the obvious choice over dated weighing controllers, PLC and timer technology.

Hardware Module Specifications

Excitation	5 V DC, 130 mA maximum.
Input Range	Software selectable for sensors from 1 mV/V to 20 mV/V.
Input Channels	Dual, independent gains. Zero X-talk between channels each having 19-bit effective resolution.
Input Sensitivity	0.08 µV/Count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 200 ppm/ ° C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input Noise	160 nVp-p typical at 1 Hz output rate.
Signal Processing Rate	20 Hz maximum, 1 Hz minimum.
Frequency Select	50/60 Hz noise rejection.

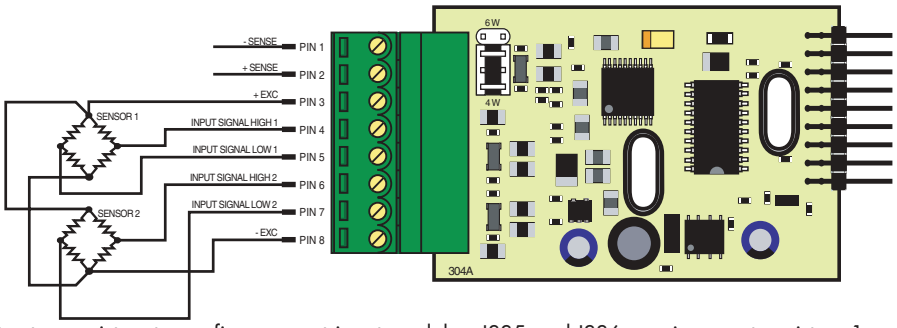
Software Module Features

Output Rates	A choice of average response outputs, 1-20 Hz.
Gain Select	Choice of industry standards, 1-20 mV/V.
Frequency Select	50/60 Hz noise rejection.

Some Relevant Operating System Features

Auto Zero Maintenance.
Set TARE, Reset TARE.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
Macro Compiler for PLC Functions.
32-Point Linearization.
Totalizator and Serial Printing.

Connector Pinouts



Description

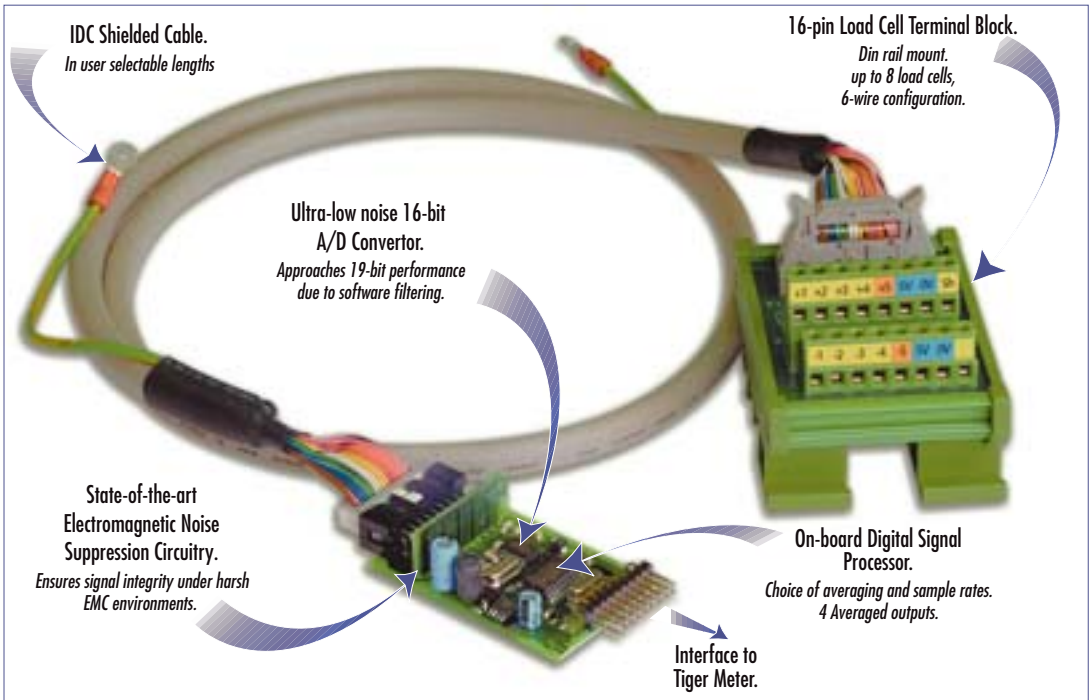
The meter uses three smart setup registers to configure smart input modules. ISS5 and ISS6 require smart registers 1 and 2 to be set up. Because this is a dual input module, independent sensor inputs can be software selected for channels 1, 2, 3, and 4.
Sensor 1 and/or sensor 2 can be transferred to Channel 1 via Code 2, to Channel 2 via Code 4, to Channel 3 via Code 5, and to Channel 4 via Code 6.

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16-BIT SMART 4-CHANNEL LOAD CELL MODULE

Order Code
ISS7 (50 Hz Rejection)
ISS8 (60 Hz Rejection)

Compatible With: TIGER



INPUTS
- Smart Quad Channel Precision
- Quad Channel Load-cell Pressure

The cost effective solution to monitoring up to eight load cells on four individual channels.

This input module and terminal block interface can receive multiple load cell inputs normally found on hoppers, tanks, bins, and silos and is ideally suited for level and inventory monitoring in the heavy weighing industry. With four averaged load cell inputs from the terminal block to a 16-bit A/D convertor in the input module, the ISS7 or ISS8 provides a diagnostic capability that allows damaged load cells to be quickly detected and repaired. In applications requiring weight measurement from different sources such as dry material handling, the input module can show how mass is distributed in a silo, or activate an alarm when wind loading exceeds a predetermined setting.

Hardware Module Specifications

Excitation	5 V DC, 130 mA maximum.
Input Range	Software selectable for sensors from 1 mV/V to 20 mV/V.
Input Channels	Quad, independent gains. Zero X-talk between channels each having 19-bit effective resolution.
Input Sensitivity	0.08 µV/Count maximum.
Zero Drift	± 40 nV/ °C typical.
Span Drift	± 5 ppm/ ° C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input Noise	160 nVp-p typical at 1 Hz output rate.
Signal Processing Rate	10 Hz maximum, 0.5 Hz minimum.

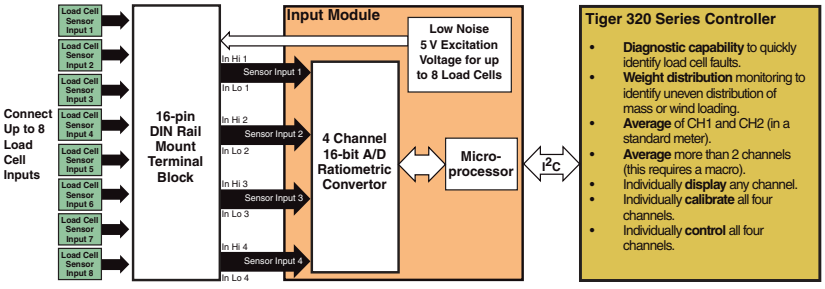
Software Module Features

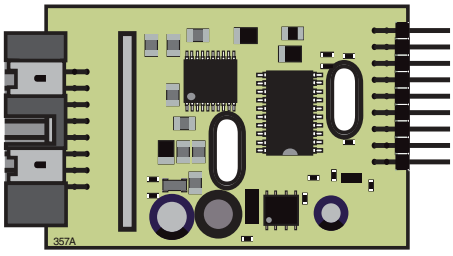
Output Rates	A choice of average response outputs, 0.5-10Hz.
Gain Select	Choice of industry standards, 1-20 mV/V.
Frequency Select	50 Hz (ISS7) / 60 Hz (ISS8) noise rejection.

Some Relevant Operating System Features

Auto Zero Maintenance.
Set TARE, Reset TARE.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.
BASIC Compiler for PLC Functions.
32-Point Linearization.
Totalizator and Serial Printing.

Connector Pinouts





Description

ISS7/8 is a 4-channel smart load cell input module that can provide excitation for a maximum of eight load cells. The input module can receive four independent sensor input signals through four channels from any combination of up to eight load cells. Being a smart input module means that it can perform the following preprocessing functions on the input signals of all four channels, prior to processing in the Tiger 320 meter:

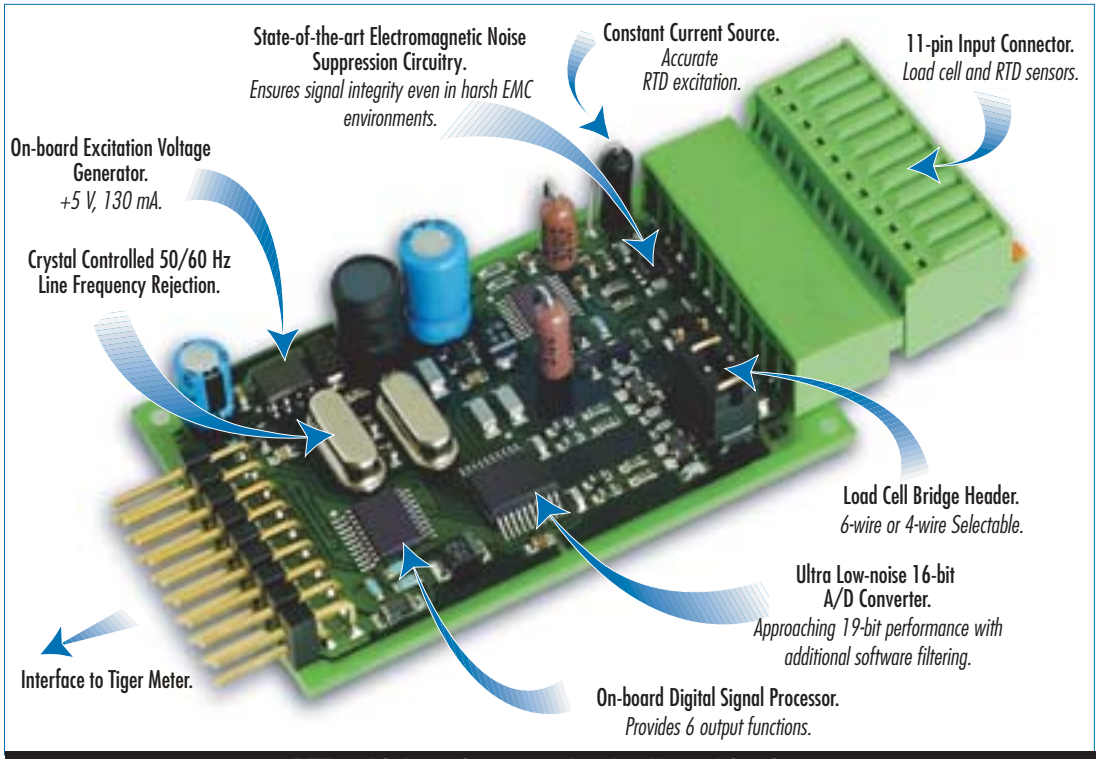
- Select the line frequency for all four inputs.
- Select the signal range for all four inputs.
- Select the averaged output rate for all four inputs.

The preferred method of connecting load cells to the ISS7/8 input module is via the DIN rail mount terminal block. Unlike simple junction boxes that combine all load cell input signals into one sensor input prior to processing in a controller, the load cell terminal block can interface eight load cells into as many as four independent sensor groups. For example, sensor input 1 could have four load cells, sensor input 2 could have two load cells, sensor input 3 could have one load cell, and sensor input 4 could also have one load cell. This provides four averaged signals for preprocessing via the four channels of the input module's 16-bit A/D convertor and built-in microprocessor.

RTD & SMART 16-BIT LOAD CELL INPUT MODULE

Order Code
ISSB

Compatible With: TIGER



RTD & high performance load cell combination.

A smart input module designed to monitor temperature using an RTD sensor and weight using a load cell. Ideal for applications that calculate fluid volume from weight and density measurements corrected for temperature changes.

Combined with the powerful Tiger 320 Series programmable meter controller, continuous monitoring and control of accurate volume versus cost calculations are a reality.

INPUTS

LOAD-CELL PRESSURE

TEMPERATURE T/C, RTD

Hardware Module Specifications

RTD (CH1)	
Excitation	1.5 mA DC continuous.
Sensor Types	Pt (100 Ω) 385 & 395, Ni 120 & Cu 10.
Wiring	3-wire excitation & lead compensation.
LOAD CELL (CH2/CH3/CH4)	
Excitation	5 V DC, 130 mA maximum.
Input Range	Software selectable for sensors 1 mV/V to 20 mV/V.
Input Sensitivity	0.08 µV/ count maximum.
Zero Drift	± 40 nV/°C typical.
Span Drift	± 5 ppm/°C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input noise	160 nV pp typical at 1 Hz output rate.
Signal Processing Rate	50 Hz maximum, 1 Hz minimum.
Wiring	4-wire & 6-wire selectable.
Guard	Shield 2.5 V common mode voltage.

Software Module Features

LOAD CELL	
Dual Output Rates	Rapid and average response outputs.
Peak & Valley Outputs	Monitoring over and under-shoots.
Capture Output	Hardwire signal capture.
Rate of Change Output	Useful for fine tuning reaction times.
Line Frequency Rejection	50/60 Hz selectable.

Connector Pinouts

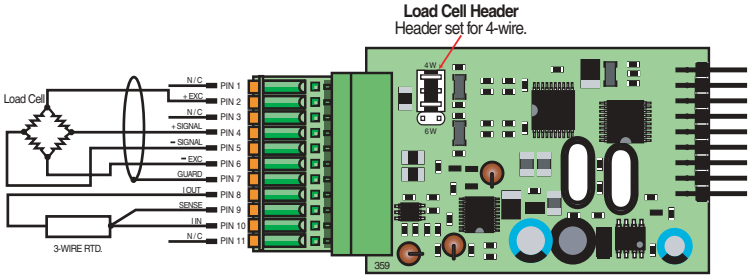
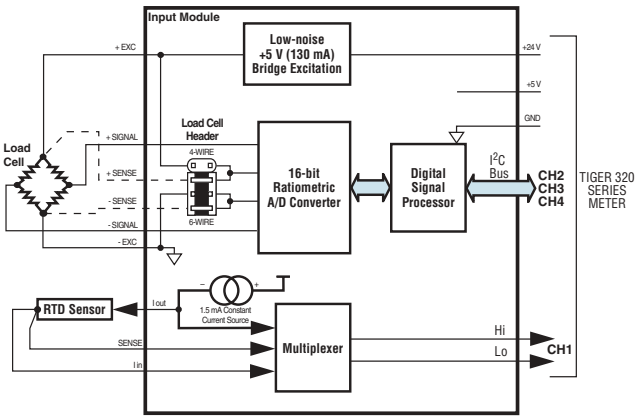


Figure 1: 4-wire load cell and 3-wire RTD configuration



Description

Internally, the RTD input is automatically assigned to channel 1 (CH1) and must be set up through Code 2. The RTD input feeds directly through the input module multiplexer to the meter's 17-bit A/D converter, and then to the microprocessor for further processing.

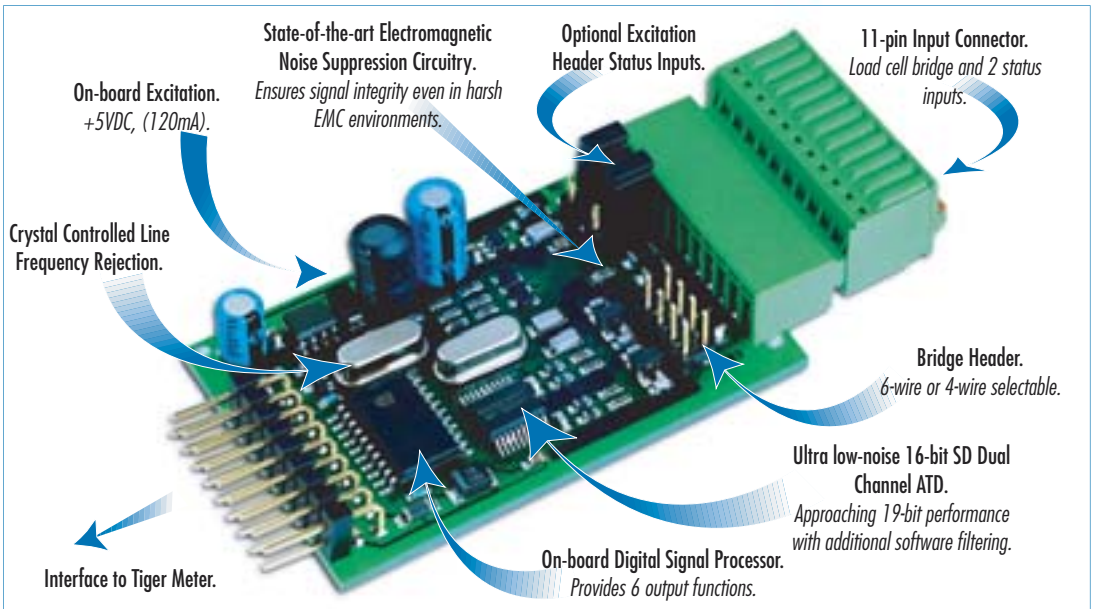
The load cell input is processed in the input module's 16-bit A/D converter and digital signal processor. It is then fed to some or all of the three remaining channels, CH2, CH3, CH4, where one of six outputs can be selected for each channel from the output register map. Smart register 1 must be set up for the load cell to define the line frequency rejection, the sensor input in millivolts per volt, and the output rate.

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16-BIT LOAD CELL / DUAL STATUS INPUT MODULE

Order Code
ISSC (50 Hz Rejection)
ISSD (60 Hz Rejection)

Compatible With: TIGER



High performance load cell controller with dual status inputs.

Now available in Texmate's family of intelligent load cell input modules is the ISSC 50Hz and the ISSD 60Hz input modules. With additional dual status inputs, standard weighing tasks can now utilize external control signals. When combined with the Tiger 320 Series controller, a versatile and interactive control system is now possible. For example, a continuous belt weigher with an encoder speed sensor.

INPUTS

Load-cell
Pressure

Hardware Module Specifications

Dual Status Inputs	
D1 and D2	Configured as frequency inputs on CH1 & CH2 respectively.
Excitation Voltage	+24 V to power external sensors. Voltage transitions 6 to 24 V.
Inputs	Open-collector configuration available (10 K pull-up resistors.)
Load Cell On CH3 / CH4	
Excitation	+5 V DC, 130 mA maximum.
Input Range	Software selectable 1 mV/V to 20 mV/V.
Input Sensitivity	0.08 µV/ count maximum.
Zero Drift	± 40 nV/°C of full scale maximum.
Span Drift	± 5 ppm/°C of full scale maximum.
Non-linearity	± 0.003% of full scale maximum.
Input noise	160 nV pp typical at 1 Hz output rate.
Signal Processing Rate	50 Hz maximum, 1 Hz minimum.

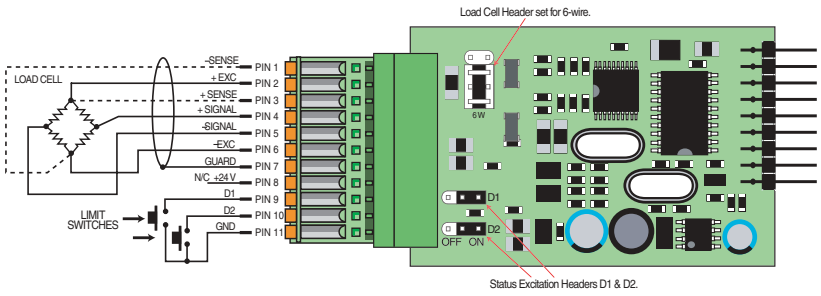
Software Module Features

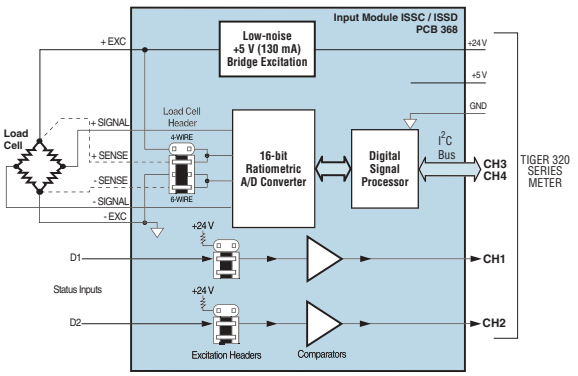
Dual Status Inputs	
Frequency Ranges	D1 (CH1), choice of 7 ranges. (0.01 Hz to 655.35 kHz). D2 (CH2), choice of 4 ranges. (0.01 Hz to 500 kHz).
Load Cell	
Dual Output Rates	Rapid and average response outputs.
Peak & Valley Outputs	Monitoring over and undershoots.
Capture Output	Hardwire signal capture.
Rate of Change Output	Useful for fine tuning reaction times.
Line Frequency Rejection	50/60 Hz selectable.

Some Relevant Operating System Features

Auto Zero Maintenance.
Set TARE, Reset TARE.
Setpoint Timer Functions.
Setpoint Register Reset and Trigger Functions.
On-demand Calibration.

Connector Pinouts





Description

The load cell input signal is processed in the input module's 16-bit A/D converter and digital signal processor from where it can be fed to either channel 3 (CH3) or channel 4 (CH4) or both. Status input D1 is internally assigned to channel 1 (CH1) and status input D2 is internally assigned to channel 2 (CH2). CH1 is configured for frequency measurement for D1 in Code 2. CH2 is configured for frequency measurement for D2 in Code 4. Selecting the load cell output for CH3 is configured in Code 5 and for CH4 in Code 6. The line frequency rejection setting, sensor input range in mV/V, and the output rate are all selected in the smart register 1 (SMT1) menu in Code 2.

The Tiger meter uses three smart setup registers to configure all smart input modules. ISSC / ISSD requires only smart register 1 (SMT1) to be configured. SMT1 configures the load cell input signal for line frequency rejection, input signal range in mV/V, and output rate. SMT1 produces the following six output registers from the load cell input:

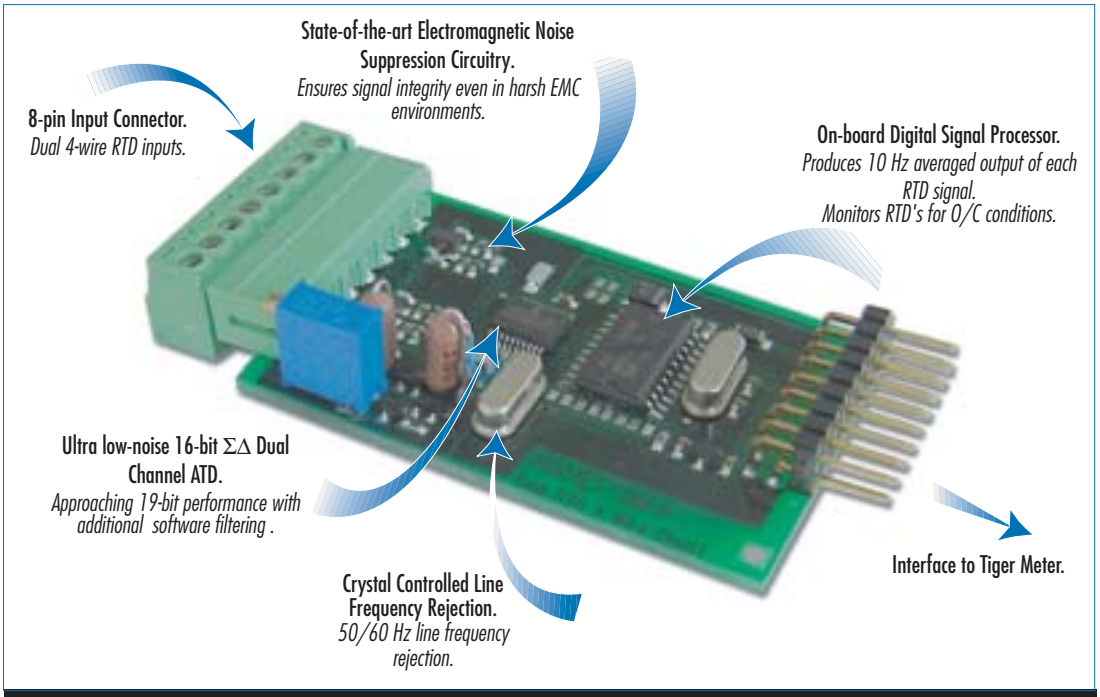
• Averaged signal. • Rapid response signal. • Peak signal. • Valley signal. • Capture signal. • Rate-of-change signal.

One of these registers can be transferred to Channel 3 (CH3) via Code 2, the same or another register to CH4 via Code 6.

DUAL RTD SMART INPUT MODULE

Order Code
IST5 (50 Hz Rejection)
IST6 (60 Hz Rejection)

Compatible With: TIGER



Unprecedented 0.01° accuracy on two channels.



Designed for applications in precision temperature measurement and calibration systems, the dual channel RTD input module interfaces directly with all Tiger 320 Series controllers. Using 4-wire RTDs, 0.01° resolution and repeatability is possible on each channel.

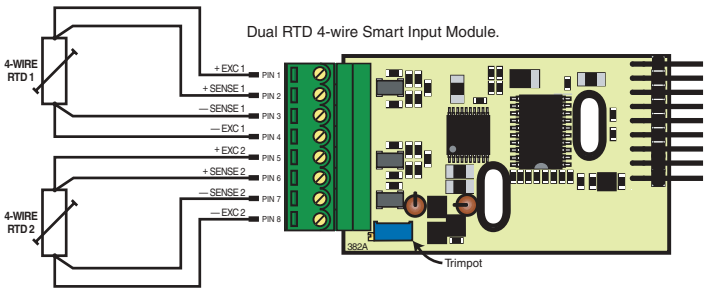
Hardware Module Specifications

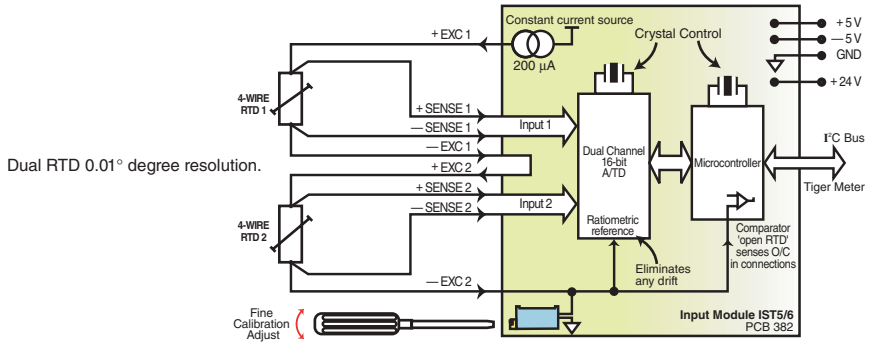
Dual Inputs	4-wire RTD, choice of Pt 385 or Pt 392. 800/960 sample rate per channel. 10 Hz average output per channel.
Excitation Current	200 µA constant current source. Ratiometric referenced to ATD. Current sense for open circuit RTD.
Resolution Analog-to-Digital	0.01° on each channel. Dual channel ΣΔ ATD convertor approaching 19-bit resolution operating ratiometric with respect to excitation current.

Software Module Specifications

Line Frequency Rejection	50 Hz (IST5) / 60 Hz (IST6).
Input Type Selection	Select from either Pt 385 or Pt 392 for both channels.
Calibration	Easy calibration with wide operating temperatures through Tiger 320 Series software.

Connector Pinouts





Description

Input module IST5/6 has two RTD inputs: RTD1 and RTD2. RTD1 is physically connected to input 1 and RTD2 is physically connected to input 2 of IST5/6's dual channel, 16-bit A to D convertor.

SMT1 resides in IST5/6's microcontroller and allows you to select the RTD type to suit your input. SMT1 applies a Pt 385 or Pt 392 linearization table to both input 1 and input 2.

The IST5/6 input module produces two output registers, one for the averaged signal output from each RTD. The data from one of these registers can be transferred to a channel in the Tiger meter. All four channels can be selected for either RTD1 or RTD2, or a combination of both inputs can be selected, for example:

- RTD1 to CH1.
- RTD2 to CH2 .
- CH3 not used.
- CH4 not used.

The channels are selected through the codes in the Tiger meter's main programming mode:

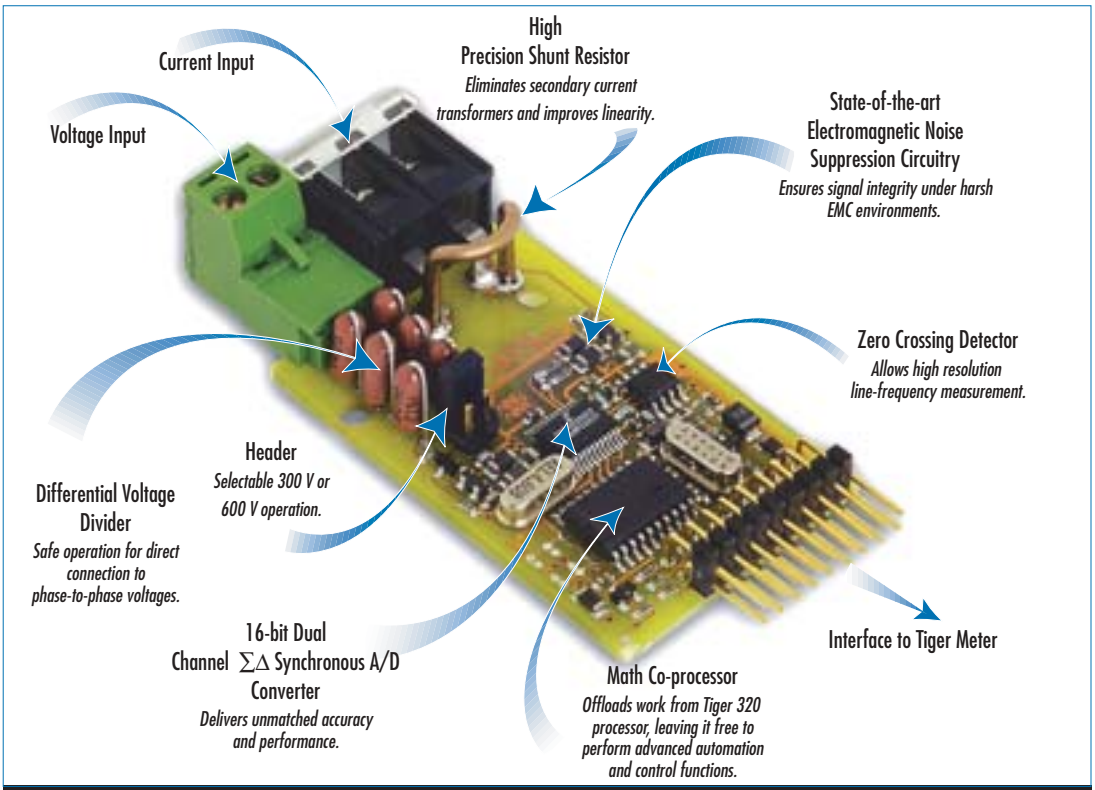
- RTD1 or RTD2 to CH1 via Code 2.
- RTD1 or RTD2 to CH2 via Code 4.
- RTD1 or RTD2 to CH3 via Code 5.
- RTD1 or RTD2 to CH4 via Code 6.

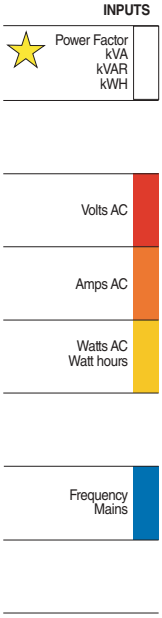
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SINGLE PHASE SMART POWER MODULE

Order Code
IW01 (300V, 1Amp)
IW02 (300V, 5Amp)
IW04 (600V, 1Amp)
IW05 (600V, 5Amp)

Compatible With: TIGER





The complete solution to stand-alone low cost metering applications required in the power industry.

When combined with the powerful Tiger 320 Series controller, this module performs many common AC functions including:

- Power for single-phase 2-wire and single-phase 3-wire systems.
- R.M.S. voltage for both line-to-line and line-to-neutral systems.
- R.M.S. current via 1 amp or 5 amp CTs. Power factor (Cos ø).

The Tiger 320 Series controller can convert kW to kW hrs and amps to amp hrs using its dual totalizers and resolve the zero crossing detector line-frequency to 3 decimal places.

Hardware Module Specifications

Voltage Range	50-300 VAC, 100-600 VAC header selectable.
Current Range	Either 1 amp or 5 amp current transformers.
Voltage Accuracy	0.1% of full scale input.
Current Accuracy	0.05% of full scale input.
Power Accuracy	± 0.2% of full scale input.
Cos ø Accuracy	± 0.5% of full scale output ± 0.3°.
Temperature Drift	60 ppm/ °C maximum.
Output Signal Rate	5 Hz.
Frequency Resolution	± 0.001 Hz

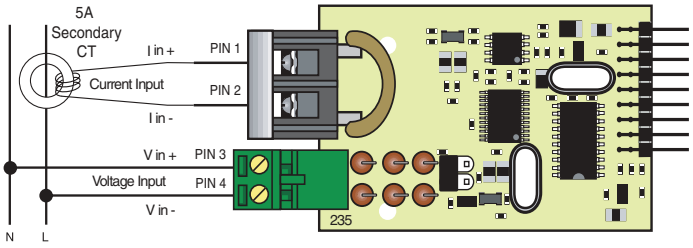
Software Module Features

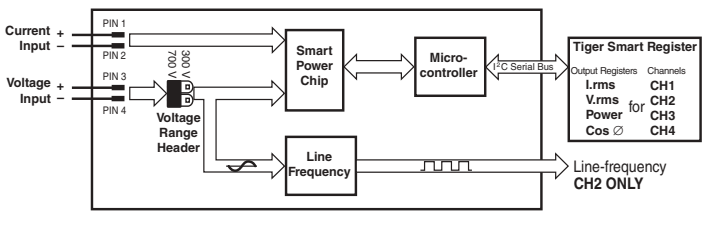
Current Gain	Selectable between 1.0 for typical systems, and 0.2 for systems with large crest factors.
Factory Calibrated	User need only scale results, no AC calibrator required.

Some Relevant Operating System Features

Setpoint timer functions.
Setpoint register reset and trigger functions.
Totalizers.
Analog outputs.
Direct display of selected outputs.

Connector Pinouts





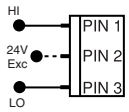
Description

The meter uses three smart setup registers to configure all smart input modules. Input modules IW01 to IW05 require only smart register 1 to be set up. These modules produce four output registers. One of these registers can be transferred to Channel 1 via Code 2, the same or another register to Channel 2 via Code 4, the same or another register to Channel 3 via Code 5, and the same or another register to Channel 4 via Code 6. Input modules IW01 to IW05 have a zero crossing detector that is available for direct line-frequency measurement in Channel 2. The following resolution settings can be selected in Code 4:

- 0 to 99.999 Hz, 0.001 Hz resolution. Set Code 4 to [30X].
- 0 to 999.99 Hz, 0.01 Hz resolution. Set Code 4 to [31X].

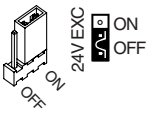
INPUT MODULE COMPONENT GLOSSARY

Dual input modules, and those modules exclusively compatible with the Leopard or Tiger Families, do not have zero and span adjustments. These modules are scaled and calibrated using the internal software functions of each individual meter.



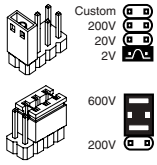
Input and Output Pins

On most modules Pin 1 is the Signal High input and Pin 3 is the Signal Low input. Typically Pin 2 is used for Excitation Voltage output.



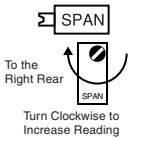
24 V DC Output for 4-20 mA Header

On some modules this header enables a 24 V DC 25 mA (max) Excitation/Auxiliary output to be connected to Pin 2 that can power most 4-20 mA process loop sensors



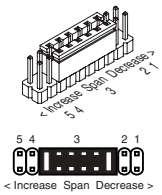
INPUT RANGE Headers

Range values are marked on the PCB. Typically two to eight positions are provided, which are selected with either a single or multiple jumper clip. When provided, a custom range position is only functional when the option has been factory installed.



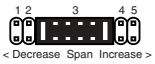
SPAN Potentiometer (Pot)

If provided, the 15 turn SPAN pot is always on the right side (as viewed from the rear of the meter). Typical adjustment is 20% of the input signal range.

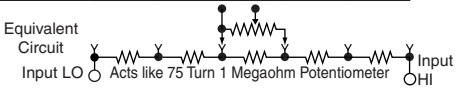


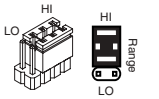
SPAN ADJUST Header

This unique five-position header expands the adjustment range of the SPAN pot into five equal 20% steps, across 100% of the input Signal Span. Any input Signal Span can then be precisely scaled down to provide any required Display span from full scale to the smallest viewable unit.



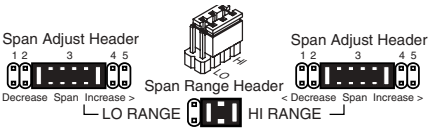
SPAN Adjust Header position	1	2	3	4	5
SPAN Pot %	20%	20%	20%	20%	20%
Signal Span %	20%	40%	60%	80%	100%



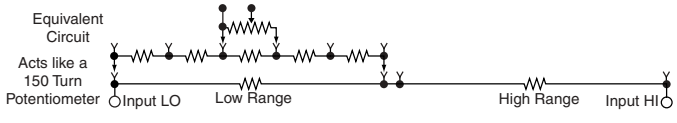


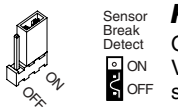
SPAN RANGE Header

When this header is provided it works in conjunction with the SPAN ADJUST Header by splitting its adjustment range into a Hi and a Lo range. This has the effect of dividing the adjustment range of the SPAN pot into ten equal 10% steps across 100% of the input Signal Span.



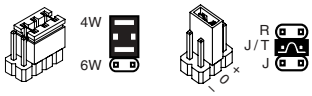
SPAN Adjust Header position	1	2	3	4	5	1	2	3	4	5
SPAN Pot %	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Signal Span %	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

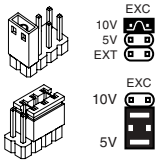




Function Select Headers

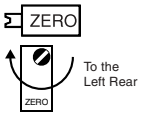
On some modules various functions such as Amps and Volts, 4 wire and 6 wire, or cold junction compensation are selected by header positions that are marked on the PCB.





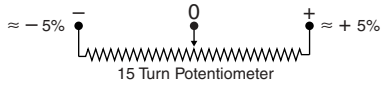
Excitation Output Select Headers

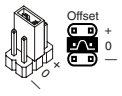
When excitation outputs are provided, they are typically 5 V DC max 30 mA, 10 V DC max 30 mA (300Ω or higher resistance) or external supply. They are selected by either a single or multiple jumper clip.



ZERO Potentiometer (Pot)

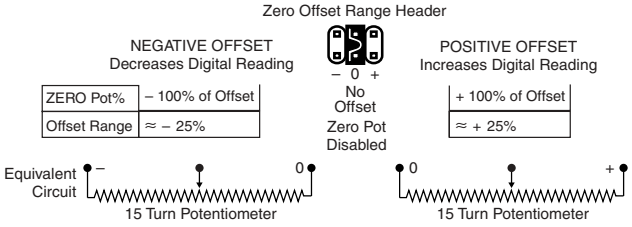
If provided, the ZERO pot is always to the left of the SPAN pot (as viewed from the rear of the meter). Typically it enables the input signal to be offset ±5% of the full scale display span.

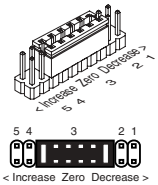




ZERO OFFSET RANGE Header

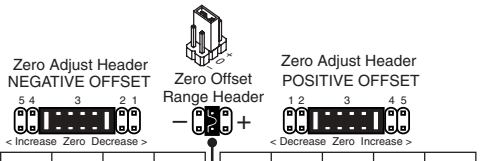
When provided, this three position header increases the ZERO pot's capability to offset the input signal, by ±25% of the full scale display span. For example a Negative offset enables a 1 to 5 V input to display 0 to full scale. The user can select negative offset, positive offset, or no offset (ZERO pot disabled for two step non-interactive span and offset calibration).





ZERO ADJUST Header

When this header is provided, it works in conjunction with the ZERO OFFSET RANGE Header, and expands the ZERO pot's offset capability into five equal negative steps or five equal positive steps This enables virtually any degree of input signal offset required to display any desired engineering unit of measure.



ZERO Adjust Header Position	5	4	3	2	1	1	2	3	4	5
ZERO Pot Span	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400
Offset Range	-25200 to -31600	-18900 to -25300	-12600 to -19000	-6300 to -12700	0 to -6400	0 to +6400	+6300 to +12700	+12600 to +19000	+18900 to +25300	+25200 to +31600

CALIBRATE position, Zero Pot disengaged (no offset applied)

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HARNESSING THE POWER OF THE TIGER 320

A combination of modular hardware and software resources enable Tiger 320 Series Programmable Meter Controllers (PMCs) to be easily configured as a cost effective solution for the most simple or the most complex of applications

A review of your Project's objectives, its physical layout, the proposed sensors and control outputs will enable you to select the optimum configuration of the Tiger 320 PMC's unique hardware and software capabilities

Input Signals & Sensors

4-20 mA or Sensor Direct

Unless sensors are located at a far distance, the greatest accuracy and best performance is usually obtained by connecting sensors directly to the Tiger 320, which will then function as the primary measurement device.

There are more than 120 Tiger compatible input signal conditioning modules, with the appropriate excitation outputs, to suit almost any type of sensor or combinations of up to 4 sensors

In most cases, sensors with a 4-20 mA output are more costly, and when a separate 4-20 mA transmitter is used, signal conversion, drift, and calibration inaccuracies are introduced.

Some Tiger input modules combine direct sensor inputs with 4-20 mA inputs, enabling both local and far distant sensor inputs to be combined.

Sensor Linearization or Compensation

The performance of many sensors can be greatly enhanced or expanded with linearization and or compensation. Sensors may be compensated for temperature, frequency, altitude, humidity and mechanical position, to name just a few parameters

Tiger PMCs with 32 kilobits or more of memory provide up to four 32-point user defined linearization tables or one combined 125-point table.

Many compensation methods can be implemented with the standard cross channel math capabilities of the Tiger's 32-bit operating system. Complex three-dimensional compensation can also be implemented using the powerful macro programming capability.

The serial number and calibration date of a sensor can be loaded into the meter. The serial number, linearization tables, and compensation factors of a newly calibrated sensor can then be saved for future reloading, either serially through a PC or directly through the web via an Ethernet port.

Although there are numerous input modules with combinations of various input signals, some inputs such as watts or pH are provided on input modules dedicated to a single function. Combining these inputs with each other signals two or more Tiger meters can serially communicate, and be configured to share their data and processing resources

Display Options

Tiger PMCs have a large range of display options, including digital and alphanumeric LCDs, LEDs and Touch Panel HMIs



LED or LCD Displays

LED displays are a lower cost and popular display option. They operate over the largest temperature range, have better viewing angles and viewing distances, and have the longest operational life. However, red LEDs are difficult to read in direct sunlight without a shade hood and consume more power. Green LEDs and backlit LCD displays can be more easily read in direct sunlight.

The Tiger range can be ordered with red or green LEDs LCD displays are also available, with or without backlighting.

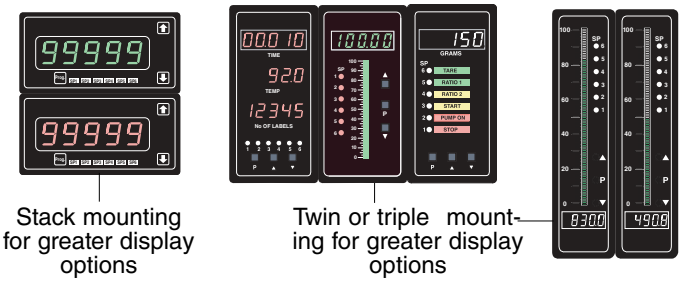
Numeric or Alphanumeric Displays

Generally, numeric displays are a lower cost option than alphanumeric displays The Tiger range supports a full 7-segment numeric and 14-segment alphanumeric alphabet of English letters and Arabic numerals Where complex text messaging or alarm annunciation is required, we recommend using the 14-segment alphanumeric option.

Single or Multiple Display

The Tiger meter has four input channels and can be configured to display many different inputs or results These can be viewed constantly on the operational display, or on demand in one of the view modes by pressing a button. Some applications require multiple values to be displayed simultaneously. With single, dual, or triple displays, and single displays with 51 or 101-segment bargraph combinations, we have a large range of display options to choose from.

Tiger meters can communicate with each other to share their data and processing resources and be stack or twin mounted to provide a wider range of display options



Push Button or Membrane Touch Pads

Tiger PMCs are shipped as standard with high usage hard plastic push buttons An optional clear lens cover that opens on a cam hinge with a key lock can provide full NEMA 4 or IP65 dust and water proofing. Alternatively, an optional membrane touch pad faceplate can be ordered.

Faceplates can be customized to suit any OEM application, and be quickly produced in large or small quantities for push buttons or membrane touch pads



Control Outputs & I/O Logic

Electromechanical Relays or Solid State Control Outputs

Tiger PMCs have a wide selection of control outputs to chose from. The decision on which control output to choose depends on the current and the switching frequency.

Electromechanical relays are a popular choice for most control outputs Tiger output modules are available with combinations of two 10 amp form C and two to six 5 amp form A relays that can be used to directly drive fractional HP motors or actuators

The limitation of electromechanical relays is switching speed. If a relay needs to operate in less than 30 mS, or be cycled faster than .5 cpm, it is advisable to select an output module with solid state relays (SSR) or open collector outputs (OC), that can drive external high current SSRs

HARNESSING THE POWER OF THE TIGER 320

PID or On/Off Control

Depending on the process to be controlled, either PID or on/off control should be selected. If the process variables are reasonably consistent, then the on/off control is generally more than adequate and easier to implement. Super smart setpoint control software supports many selectable functions such as Hi or Lo activation, Latching, Hysteresis, Tracking, Register Resetting and 7 Multi-function internal Timers on all setpoints

Control systems with large lag and lead times are not suitable for on/off control and tend to overshoot and undershoot. PID is needed to stabilize and control these systems One of the many powerful setpoint functions provided by the Tiger 320 Operating System is single or dual PID.

Retransmission 0-10V or 4-20mA

Tiger PMCs can have an optional single (0-10 V or 0/4-20 mA) or dual (0-10 V) analog output module installed. The isolated 16-bit output is fully scalable and highly accurate. With a compliance of up to 500Ω at 20mA, the 4-20 mA output can be used over very long distances and still drive more than one output device, such as a PID controlled valve positioner.

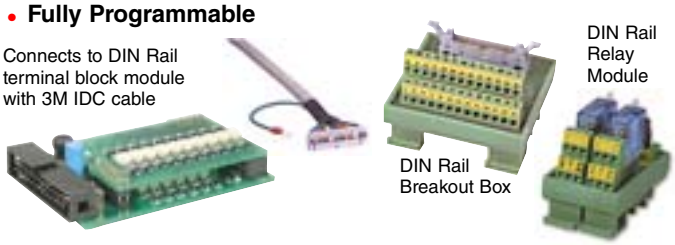
The analog outputs can be reversed to output 20mA to 4/0 or 10 to 0VDC. They can be scaled across any portion of the digital range, up to full scale. The output can be programmed to swing 0 to 20mA or 0 to 10V in one digital count to drive external logic or SSRs as additional setpoints Under Macro Program Control, the analog outputs can be programmed to produce pulses or even sinewaves

I/O Logic, Rear Panel or Breakout Box

The Tiger Operating System has many built-in logic functions that can be used to develop sophisticated control systems The Tiger PMC has three logic inputs/outputs available via the LOCK, HOLD, and CAPTURE pins and three logic I/Os are available for input module use via pins D1, D2 and D3

More complex I/O intensive applications require an opto-isolated I/O plug-in module, which supports six inputs and up to 16 outputs This module can connect to an external Breakout Box that is DIN Rail mountable with screw terminal blocks There are also compatible DIN Rail mounting electromechanical relays and SSR modules

- **6 Inputs & 16 Outputs or 6 Inputs & 6 Outputs**
- **Fully Programmable**



Serial Communication

The easiest way to configure or program a Tiger PMC is with the free user-friendly Configuration or Macro Development Software. Serial I/O is provided via an optional Plug-in output carrier board, which supports RS-232 or RS-485 output modules If serial I/O is not required by the application, the serial carrier board can be removed for reuse. The Tiger 320 Operating System supports several serial protocols including ASCII, Modbus RTU and Print Mode (which includes a printer driver and support for direct meter to meter communications). Also supported is DeviceNet, which requires a special dedicated carrier board, and Ethernet (TCP/IP), which requires an external converter box.

RS-232 or RS-485

Except for DeviceNet, all serial communication modes supported by the Tiger can function with either RS-232 or RS-485. The limitations of RS-232 are that only one meter at a time can be connected to the serial port of a computer, and the distance from the computer to the meter is limited in practical terms to around 30 meters (100 feet).

Up to 32 meters can be connected on an RS-485 bus The differential current drive of the RS-485 bus ensures signal integrity in the most harsh environments to distances up to 1230 meters (4000 feet). However, RS-485 generally requires a special RS-485 output card to be installed in the computer or an external RS-232 to RS-485 converter has to be used.

Select the Communication Mode Best Suited to Your Application:

Modbus (RTU)

Modbus is widely used in industry. It has a large base, and most SCADA and HMI software packages support it. See also Modbus Wrapped in Ethernet (Modbus/TCP) below.

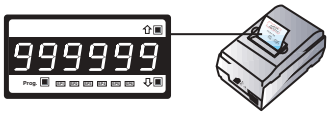


There are 100s of HMI Touch Panel Screens that are compatible with the Tiger 320 Modbus interface.

ASCII

The meter configuration utility program and the development software use the ASCII protocol. The ASCII protocol allows you to write your own driver for your own application via the development software and should provide the quickest development time.

Print Mode



This is an ASCII based printer driver output that enables the serial port to be directly connected to any serial printer with Epson compatibility. Printer output can be configured to occur from a setpoint or on demand, and can be date or time stamped.

The print mode can also be used for computer data logging applications The meter can be connected directly to a computer, set up in Microsoft Hyperterminal mode, with the meter programmed to output directly into a Microsoft Excel spreadsheet format. (Also see Data Logging).

Print Mode for Meter to Meter Communication

Two or more Tiger PMCs can be connected together allowing data to be transferred from the master meter (in print mode) to the slave meter (in ASCII mode). This enables the meters to share input data and control output functions

Master Mode

This mode is for use with macro programming to expand the meter to meter communication capability to multiples of Tiger PMCs This is useful for building an entire system of Tiger PMCs sharing information and control output resources

Ethernet



Ethernet has become a popular automation and control protocol. We supply an ethernet output option and several external ethernet converters that are compatible with the serial outputs of Tiger PMCs

Ethernet ASCII Wrap - The ethernet output carrier board option wraps the ASCII output into the Ethernet protocol, and provides a T-base 10/100 Ethernet output socket. This allows the Configuration Utility Program or the Macro Development Software to run over a standard Ethernet network This enables the Tiger meter to be configured or macro programmed from anywhere in the world via the web.

Up to 32 Tiger PMCs can be connected by RS-485 to a single Ethernet Converter, which will support up to 32 separate IP addresses

Ethernet Modbus Wrap - This converter accepts the Tiger PMC's modbus protocol and outputs Modbus/TCP through an Ethernet T-base 10 port. This has become a standard for Ethernet on the factory floor. Many SCADA and HMI software packages connect directly to Modbus/TCP.

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HARNESSING THE POWER OF THE TIGER 320

DeviceNet

DeviceNet was originally developed by Allen Bradley to connect sensors from the factory floor to PLCs It is a deterministic real-time system, typically used to connect to networks using Allen Bradley PLCs An optional carrier board is required for DeviceNet which replaces the standard serial output with a dedicated DeviceNet output connector.

Data Logging

The Tiger 320 Operating System has built-in, sophisticated data logging software. Data logging can be triggered from the PROGRAM button, digital inputs, time or alarm functions Up to 1MB of optional extra on-board memory provides a powerful, multi-channel data capture and acquisition system.

Tiger PMCs can be configured to log in an endless loop, overwriting the oldest data first and utilizing the maximum amount of memory available. Similar to the Black Box on an aircraft, the data can be downloaded for analysis after a problem event occurs

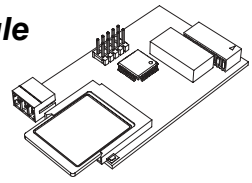
Data logging can be combined with an Ethernet converter to provide an individual Web Page with data that can be accessed by a browser over the internet.

Real-time Clock

The Tiger meter has an optional real-time clock with a 15 year lithium battery backup, ensuring that time information is not lost in the event of a power failure. It can be configured in 12 or 24-hour modes for printing and data logging applications

Other applications of the real-time clock include activating a setpoint or control action at fixed times of the hour, day, week, month or year.

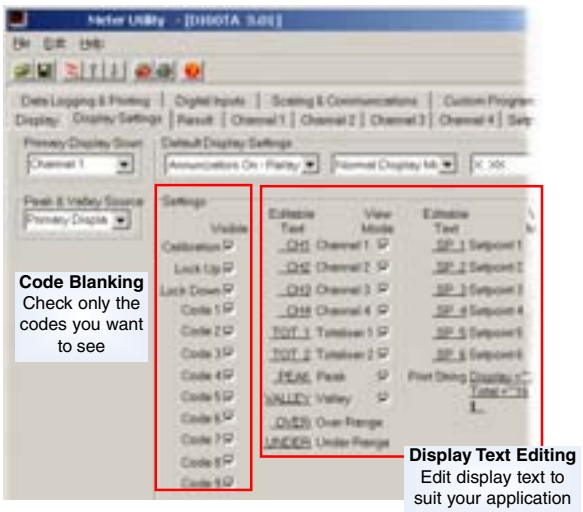
Flash Card Memory Module



For long term data logging, a Flash Card Memory Module that plugs in to the carrier board output socket is available. Flash Cards are available from 4 to 128 meg. They can be removed and read by a standard card reader, or the data can be downloaded through the serial port or over the internet with an Ethernet converter. The module also has an SSR setpoint output to trigger an external event.

Configuration and Programming with a PC

With a serial output module installed, Tiger 320 PMCs are most easily configured using the Tiger 320 Configuration Utility, which can be downloaded free from the web and run on any Windows-based PC. The utility also enables the user to access some special capabilities of the Tiger 320 which cannot be programmed manually by the front panel buttons



Code Blanking
Check only the codes you want to see

Display Text Editing
Edit display text to suit your application

The Configuration Utility requires that an RS-232 interface board be installed in a Tiger 320 for programming. However, if the final application does not require a serial output, the RS-232 board can be easily removed, after programming is completed, and kept for future use.

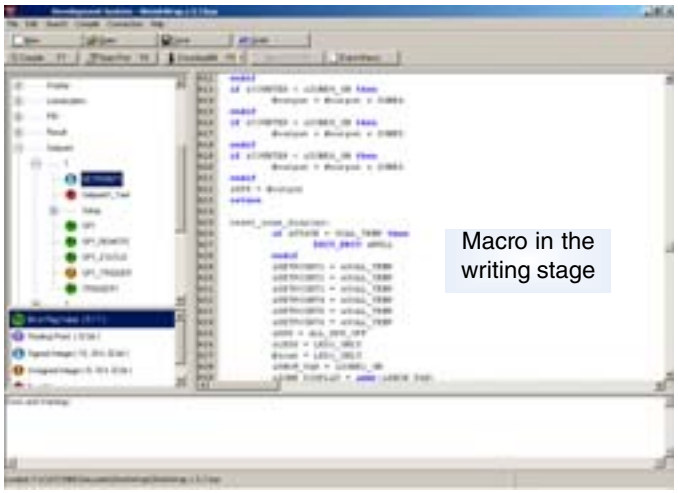
When a Tiger 320 is to be used in a custom application, the utility enables all or any of the front panel programming functions to be disabled (code blanking). Customized descriptive text can also be entered to appear with any setpoint action or event.

Different configurations can be stored in a PC for fast downloading into a meter by the user. Custom configurations can also be issued a serial number and preloaded at the factory.

Development Software

Custom Macro Programming

This powerful, easy to use development system enables programs to be written in BASIC, utilizing any combination of the hundreds of functions and thousands of registers embedded in the Tiger 320 Operating System. When your Basic program is compiled into the Tiger 320 Macro-language it is error checked and optimized. There are also numerous off-the-shelf application specific programs available. Many only need the blanks to be filled in to use them and do not require any knowledge of BASIC programming.



Macro in the writing stage

Macros are useful when implementing any specialized control system that cannot be achieved by the standard configuration capability of the Tiger 320 Operating System. Using the development software, functions can be altered or added in a standard meter to perform the required job. This may typically include logic sequencing functions and mathematical functions

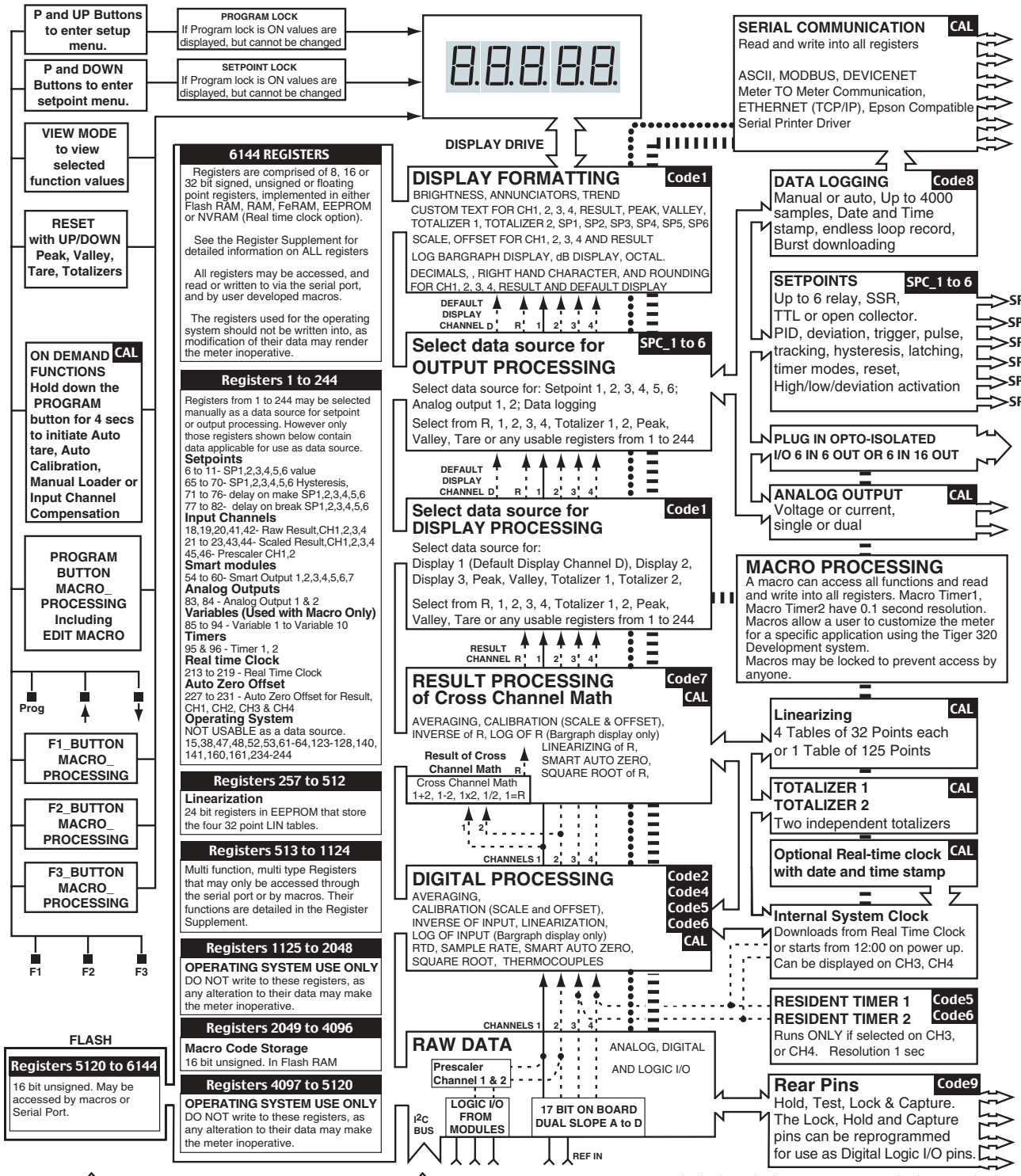
Developing a Macro is much easier and quicker than programming a PLC, because the basic code required to customize the Tiger meter is considerably less than the ladder logic programming required for PLCs This is due to the hundreds of functions built into the Tiger meter that can be manipulated or invoked by a macro, to fulfill the requirements of almost any application.

Scrolling annunciator messages



can be programmed to appear with any setpoint activation, selected events or logic inputs Easy to read, plain text prompts can be programmed to replace the manual programming codes and provide a user-friendly interface for any custom application.

DIAGRAM OF THE TIGER 320 SOFTWARE & HARDWARE STRUCTURE



SMART MODULES WITH MULTICHANNEL INPUTS, AN ON-BOARD A TO D CONVERTER, MICROPROCESSOR, AND TWO SOLID STATE RELAY OUTPUTS

SMART MODULES WITH AN ON BOARD MICROPROCESSOR AND TWO SOLID STATE RELAY OUTPUTS WITH PULSE, OR QUADRATURE ENCODER INPUTS FOR COUNTING, FREQUENCY OR POSITION

MULTI-INPUT MODULES W/DIGITAL SCALING

SINGLE INPUT MODULES WITH ANALOG SCALING

12-30-02 4:00 PM

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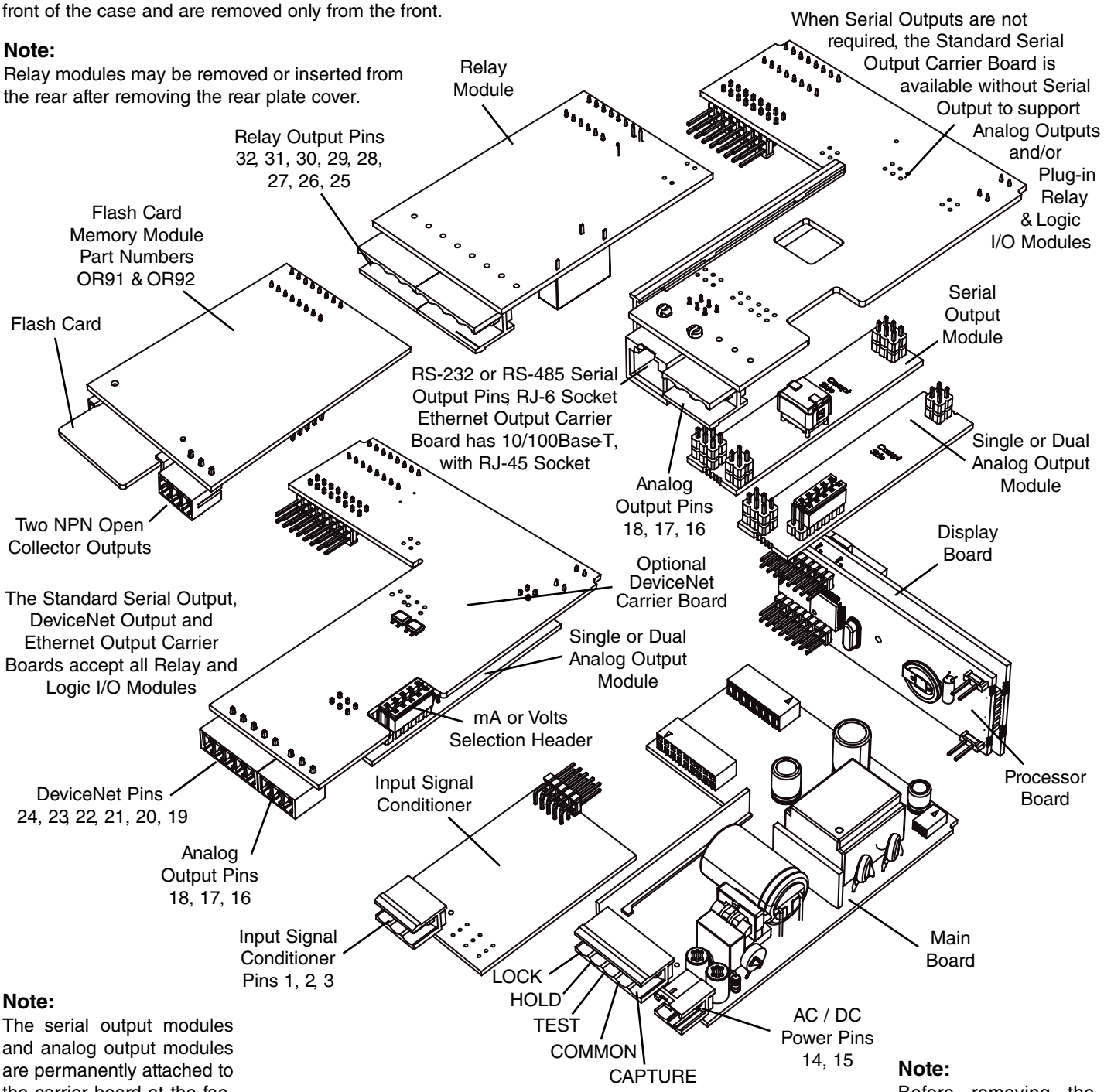
TIGER 320 SERIES MODULAR CONSTRUCTION

DI - Case Format

Note:
The display board and processor board snap into the front of the case and are removed only from the front.

Note:
Relay modules may be removed or inserted from the rear after removing the rear plate cover.

Note:
The output carrier board can be removed or inserted from the rear after removing the rear cover plate. The carrier board must be removed before removing the main board.



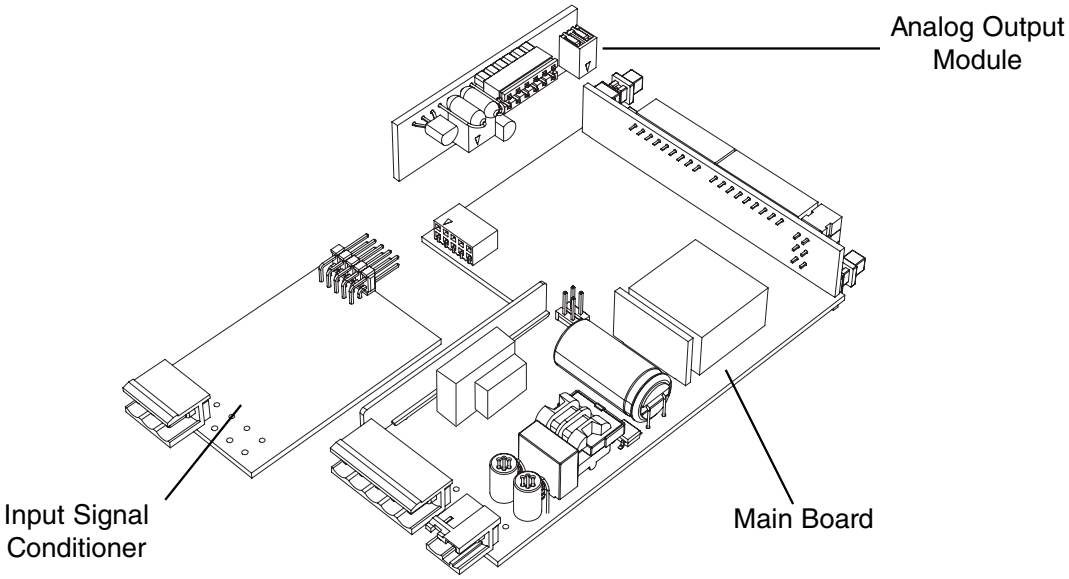
Note:
The serial output modules and analog output modules are permanently attached to the carrier board at the factor and cannot be readily removed or inserted without professional desoldering tools

Note:
Input signal conditioning modules may be removed or inserted from the rear after removing the rear cover plate.

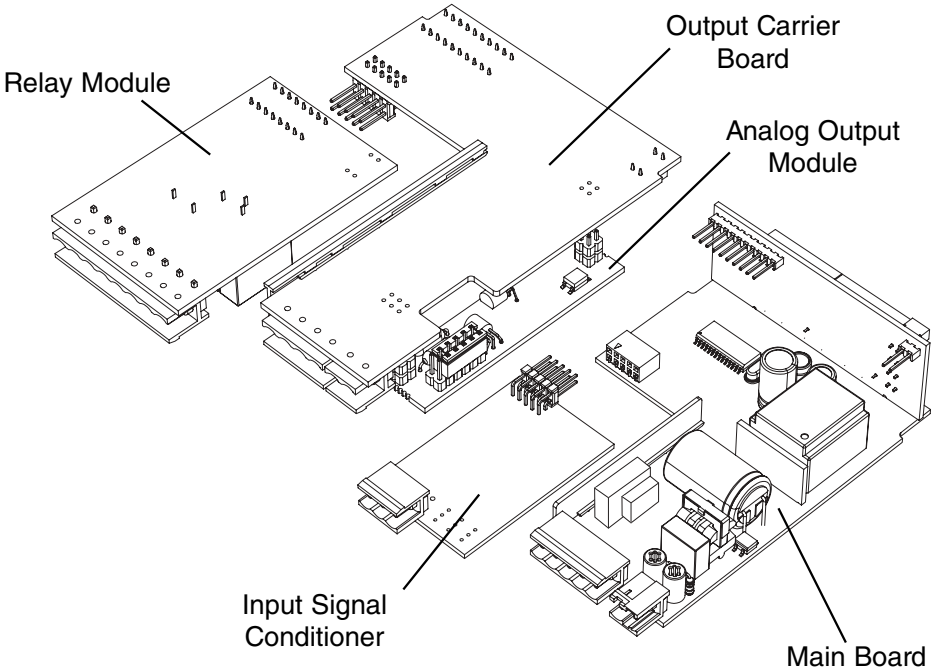
Note:
Before removing the main board. The output carrier board must be removed first.

LEOPARD BL & DL SERIES MODULAR CONSTRUCTION

BL-40 Series

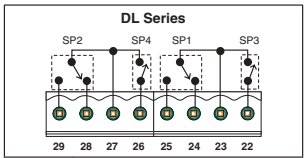


DL-40 Series



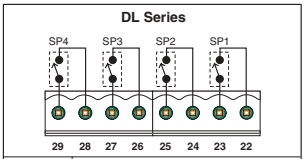
Relay Modules that can be used with DL-Series meters:

Relay Modules with 2 Non-Isolated 5A Form A Relays, and 2 Non-Isolated 10A Form C Relays



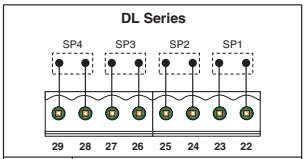
Order Code	Options			
	SP2	SP4	SP1	SP3
OR11	-	-	10A	-
OR12	10A	-	10A	-
OR23	10A	5A	10A	-
OR14	10A	5A	10A	5A
OR15	-	5A	10A	5A
OR16	-	5A	10A	-

Relay Modules with 4 Isolated 5A Form A Relays



Order Code	Options			
	SP4	SP3	SP2	SP1
OR31	-	-	-	5A
OR32	-	-	5A	5A
OR33	-	5A	5A	5A
OR34	5A	5A	5A	5A

Relay Modules with 4 Independent 400V (210mA DC only) or (140mA AC/DC) SSRs



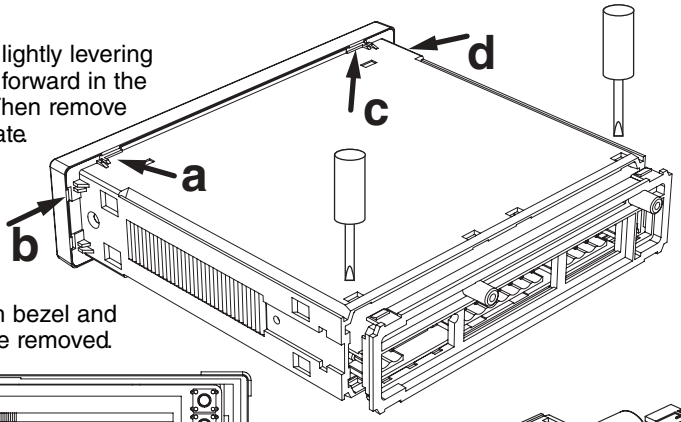
Order Code	Options			
	SP4	SP3	SP2	SP1
OR51, OR61	-	-	-	210mA, 140mA
OR52, OR62	-	-	210mA, 140mA	210mA, 140mA
OR53, OR63	-	210mA, 140mA	210mA, 140mA	210mA, 140mA
OR54, OR64	210mA, 140mA	210mA, 140mA	210mA, 140mA	210mA, 140mA

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LEOPARD FL-D & FL-Q SERIES BARGRAPHS

Mode select headers are located on the Display Driver Board assembly. To change any of the modes, it is best to remove the Display Driver Board assembly from the case. Before removing the Display Driver Board assembly from the front of the case, it is necessary to remove the rear cover first. To do this, follow the 5 step directions below:

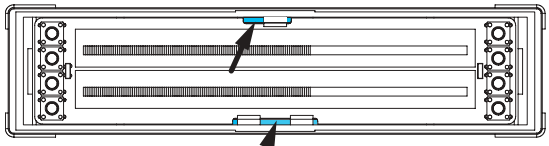
Step 1
Remove the front bezel by lightly levering the plastic catches up and forward in the a b c d sequence shown. Then remove the cover and scale faceplate.

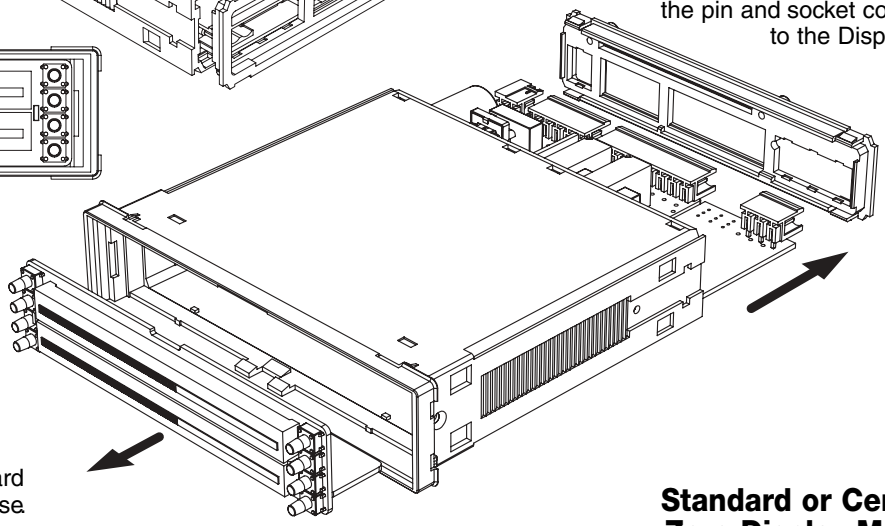


Step 2
Remove the rear cover plate by pressing down lightly with a small flat bladed screw driver to release two plastic catches on either side of the case and levering backwards

Step 3
Slide the Main Board back approximately 1" to disengage the pin and socket connection to the Display Driver Board.

Front view with bezel and scale faceplate removed.

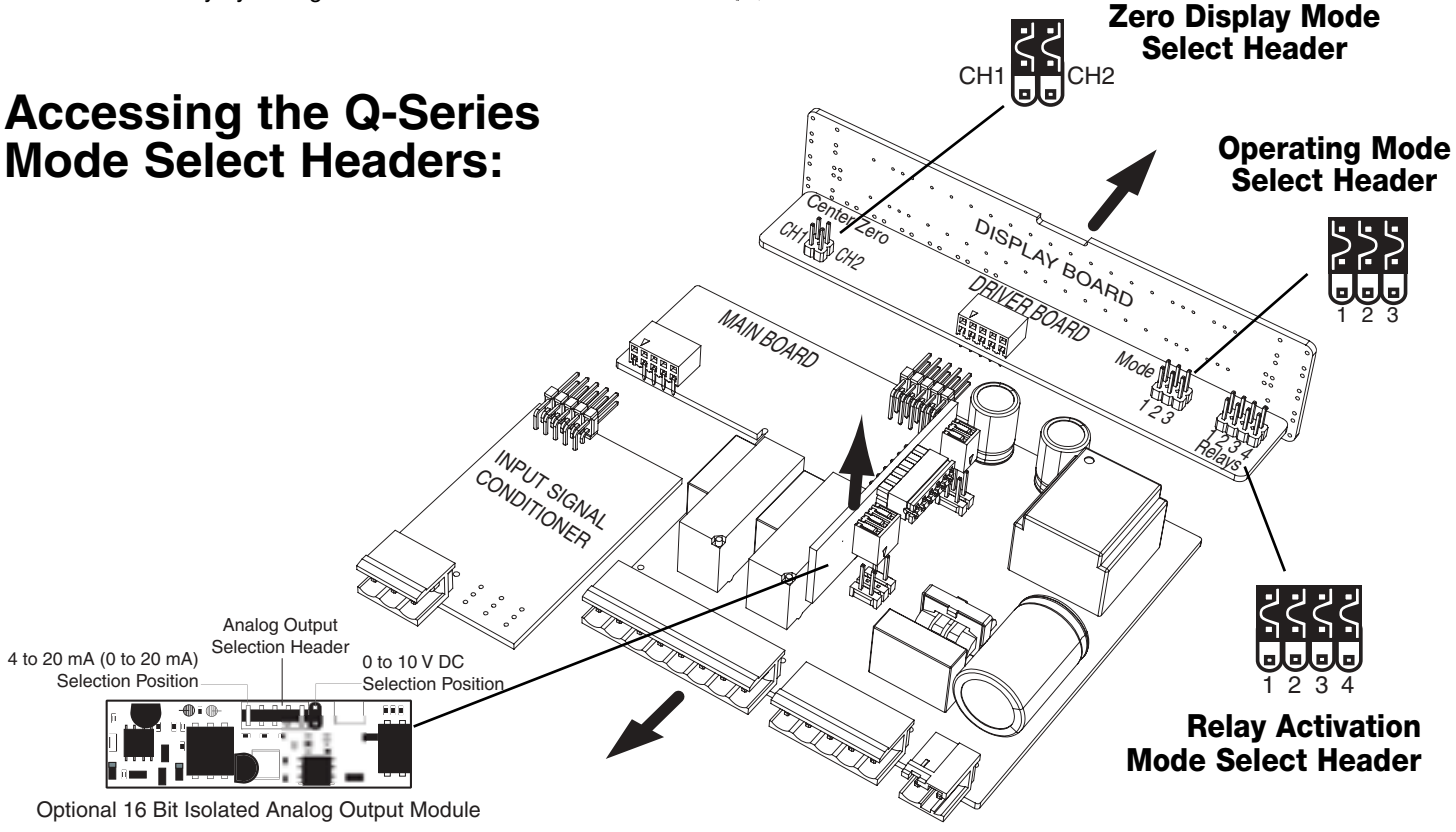




Step 4
Starting with the top first, insert a small flat bladed screw driver and carefully lever the plastic catch up and tilt the Display Board assembly forward. Then repeat this action with the bottom catches

Step 5
Remove the entire Display Board assembly by sliding it out of case.

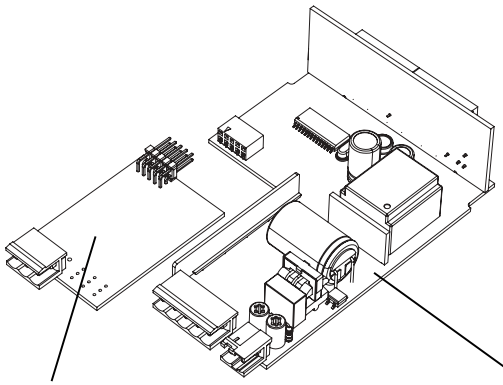
Accessing the Q-Series Mode Select Headers:



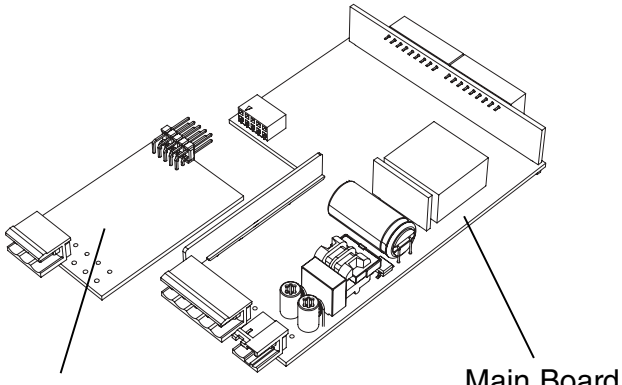
Optional 16 Bit Isolated Analog Output Module

LYNX FAMILY MODULAR CONSTRUCTION

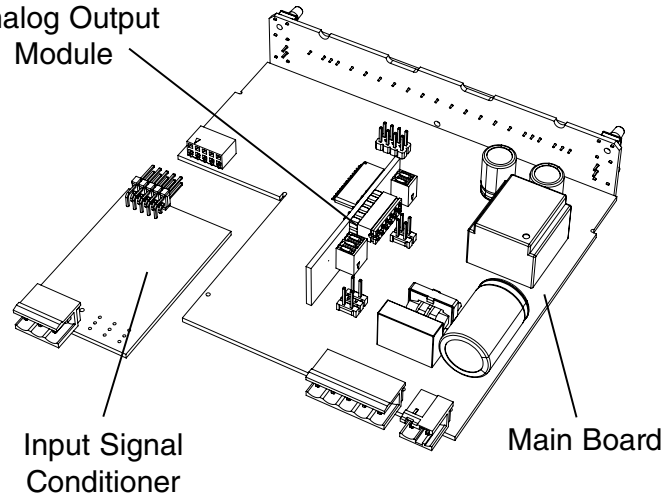
DX Series



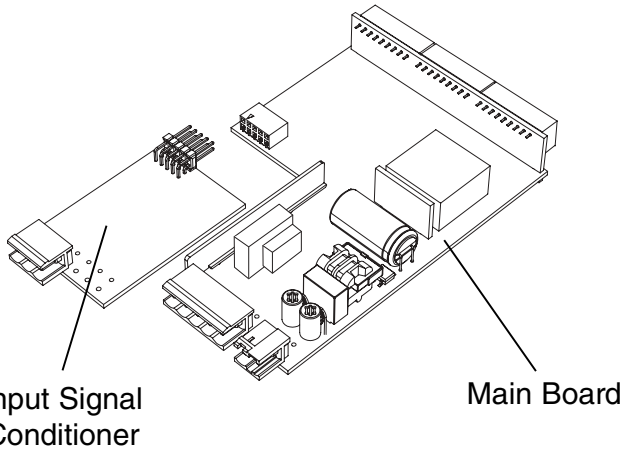
BX Series



FX-B101Q



BX-B31



CALIBRATION OF MODULES THAT HAVE SPAN OR ZERO POTENTIOMETERS

Tiger, Leopard and Q-Series Lynx meters have software calibration and scaling functions that can expand or be used in conjunction with the analog capabilities of any compatible modules.

Note: I-Series modules with analog calibration and scaling capability can be interchanged between any compatible meter without recalibration. However, meters that also have software scaling and calibration capabilities such as meters in the Leopard and Tiger families or Lynx Q-Series (Quickset programming), must have their software scaling set to unity gain.

Basic standard range calibration of direct reading modules that utilize either Auto Zero or a ZERO pot, an INPUT RANGE Header and or a SPAN pot.

1. If the module has an INPUT RANGE Header, reposition the jumper clip to select the desired input signal range.
2. Apply a zero input or short the input pins The display will auto zero, or if the module has a ZERO pot, it should be adjusted until the display reads zero.
3. Apply a known input signal that is at least 20% of the full scale input range and adjust the SPAN pot until the display reads the exact input value For negative inputs, Leopard Family Meters will display negative overrange at 50% of full scale range.
4. Decimal Points The selection or positioning of decimal points has no effect on the calibration of the modules

Wide range scaling, in engineering units not requiring offsets, with modules that utilize auto-zero or a ZERO pot, a SPAN RANGE Header and or a SPAN ADJUST Header.

Texmate's unique SPAN ADJUST and SPAN RANGE Headers provide the circuit equivalent of an ultra-precision one megohm 75 or 150 turn potentiometer that can infinitely scale down any Input Signal SPAN to provide any Display Span from full scale to the smallest viewable unit.

If the module has an INPUT RANGE Header, and the required full scale Display Span (digital counts or bargraph segments) is to be larger than the directly measured value of the input Signal Span, then the next lower range on the INPUT RANGE Header should be selected. The resulting over range Signal Span is then scaled down, by selecting the position of the SPAN RANGE Header and or the SPAN ADJUST Header, which will reduce the input Signal Span to a percentage, that the required Display Span can be reached by calibration with the SPAN pot.

Example A: Using a DX-35 Lynx, 35 digit meter.
Input signal 0 to 10 V to read 0 to 1800 gallons
Signal Span = 10 V, Digital Display Span = 1800 counts

1. Select the 2 V INPUT RANGE Header position. This will provide a digital display of 1800 counts with an input of only 1.8 V which is (1.8÷10) =18% of the examples 10 V Signal Span.
2. To scale down the Signal Span to 18% select the 20% Signal Span position on the SPAN ADJUST Header (position 1) or if the module has a SPAN RANGE Header, select (LO Range) and 20% Signal Span position on the SPAN ADJUST Header (position 2).
3. Apply a zero input or short the input pins The display will auto zero, or if the module has a ZERO pot, it should be adjusted until the display reads zero.
4. Apply 10 V and adjust the SPAN pot until the display reads 1800.

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Over 20 Output Modules to Choose From

BASIC MODEL #	DISPLAY	POWER SUPPLY	INPUT MODULE	ANALOG OUTPUT*	SERIAL OUTPUT*	RELAY OUTPUT*	OPTIONS / ACCESSORIES
DI-60A	XXX	XXX	XXXX	XXX	XXX	OR11	OA XXX

*If a meter is ordered with a Relay Output Module, but without Analog or Serial Output, an Output Module Carrier Board for $7 should be automatically added to the order. To order an Output Module by itself, enter the Basic Model number and the Output Module order code into the order form, place an X in all other order code boxes. Please see the ordering example above for an OR11 Relay Output Module.

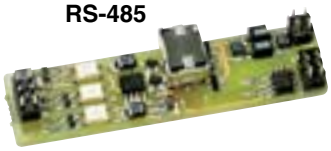
Output Module Price List

Relay and SSR outputs, analog and serial outputs to suit almost any control or data output requirement.

Function	Code	Price
ANALOG OUTPUT FOR DI, GI, FI and DL SERIES		
• Isolated 16 Bit Current Output, 4-20mA	AIC	$50
• Isolated 16 Bit Voltage Output, 0-10VDC	AIV	$50
• Isolated 16 Bit Voltage Output, Dual 0-10VDC	ADV	$90
ANALOG OUTPUT FOR BL AND FL SERIES, AND FX-B101Q		
• Isolated 16 Bit Current Output, 4-20mA	OIC	$35
• Isolated 16 Bit Voltage Output, 0-10VDC	OIV	$35
RELAY OUTPUTS FOR DI & GI SERIES		
• One 10 Amp Form C Relay, Isolated	OR11	$30
• One 10 Amp Form C and Two 5 Amp Form A Relays	OR15	$75
• One 10 Amp Form C and One 5 Amp Form A Relays	OR16	$55
• Two 10 Amp Form C Relays, Isolated	OR12	$60
• Two 10 Amp Form C and Two 5 Amp Form A Relays	OR14	$105
• Two 10 Amp Form C and One 5 Amp Form A Relays	OR23	$85
• One 5 Amp Form A Relay, Isolated	OR31	$25
• Two 5 Amp Form A Relays, Isolated	OR32	$50
• Three 5 Amp Form A Relays, Isolated	OR33	$70
• Four 5 Amp Form A Relays, Isolated	OR34	$90
• Five 5 Amp Form A Relays, Isolated	OR45	$110
• Six 5 Amp Form A Relays, Isolated	OR46	$130
SOLID STATE RELAY (SSR) OUTPUT MODULE DC ONLY		
• One 400V DC Solid State Relay (SSR) 210mA	OR51	$25
• Two 400V DC Solid State Relays (SSR) 210mA	OR52	$50
• Three 400V DC Solid State Relays (SSR) 210mA	OR53	$70
• Four 400V DC Solid State Relays (SSR) 210mA	OR54	$90
SOLID STATE RELAY (SSR) OUTPUT MODULE AC/DC		
• One 400V DC Solid State Relay (SSR) 140mA	OR61	$25
• Two 400V DC Solid State Relays (SSR) 140mA	OR62	$50
• Three 400V DC Solid State Relays (SSR) 140mA	OR63	$70
• Four 400V DC Solid State Relays (SSR) 140mA	OR64	$90
OPEN COLLECTOR / TTL / 5VDC OUTPUTS TO DRIVE EXTERNAL SSRs or LOGIC INPUT DEVICES		
• Six 5V DC 50mA Outputs	OR71	$35
• Six Open Collector Outputs	OR72	$35
OPTO ISOLATE I/O MODULES FOR CONNECTING TO EXTERNAL BREAKOUT BOX (T Version Meters only)		
• Six Outputs & Six Inputs	OR81	$120
• Sixteen Outputs & Six Inputs	OR82	$175
DATA ACQUISITION MODULES WITH REMOVABLE FLASH CARD MEMORY AND TWO SSR OUTPUTS		
• Module with 4 Meg Memory	OR91	$150
SERIAL OUTPUT		
• Isolated ASCII Code RS-232	S2	$65
• Isolated ASCII Code RS-485	S4	$75
• Isolated ModBus Protocol RS232	S5	$85
• Isolated ModBus Protocol RS485	S6	$95
• Isolated DeviceNet™ Output for DI only, includes a special Output Carrier Board that accepts analog outputs and I/O modules	S7	$150
• Ethernet Output for DI only, includes a special Output Carrier Board that accepts analog outputs and I/O modules	S7	$150
CARRIER BOARDS		
*One carrier board must be ordered with any meter that includes any one or more of the following options: Analog Output, Serial Output and/or Relay Output Modules. The exception is when the DeviceNet™ option is ordered, as it includes a special Output Carrier Board that accepts analog output options and relay output modules.		
• Output Module Carrier Board, DI Series	SA-DI/OM-CB	$7
• Output Module Carrier Board, FI Series	SA-FI/OM-CB	$7
• One 400V AC/DC SSR, Factory Inst. (FI)	SA-FI/OIS1	$25
• Two 400V AC/DC SSRs, Factory Inst. (FI)	SA-FI/OIS2	$25
• Output Module Carrier Board, GI Series	SA-GI/OM-CB	$7

Serial and Analog Output Modules for DI, GI & FI Carrier Boards

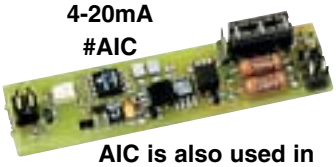
RS-485



RS-232

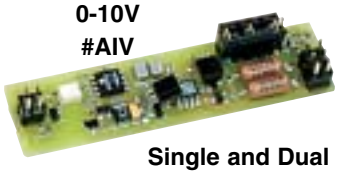


4-20mA
#AIC



AIC is also used in DL-Series meters.

0-10V
#AIV



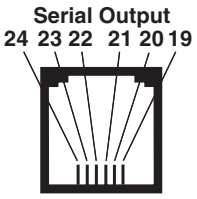
Single and Dual

Analog Outputs

Pin 16 – Positive (+) analog output 1.
Pin 17 – Negative (–) analog output 1 and 2.
Pin 18 – Positive (+) analog output 2.

Serial Outputs RS-232 or RS-485

Pin No.	RS-232	RS-485
19	Reserved for future use	Reserved for future use
20	RXD. Received Serial	B (Low)
21	TXD. Transmitted Serial	A (High)
22	+5 VDC to power external converters	+5 VDC to power external converters
23	Isolated Ground	Isolated Ground
24	Reserved for future use	Reserved for future use



RJ-6 Socket

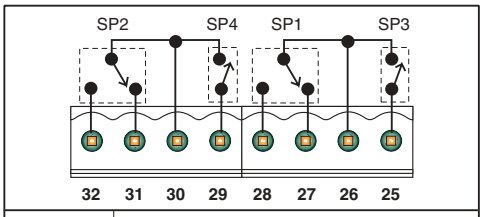
RELAY OUTPUT MODULES FOR GI, DI & DL

There are 7 Output Modules providing 26 output options for DI and GI Series meters, and 3 Output Modules providing 18 output options for the DL Series meters

TIGER DI Series GI Series

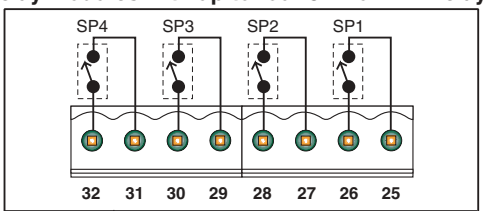
LEOPARD DL Series

Relay Modules with up to two 5A Form A Relays, and up to two 10A Form C Relays



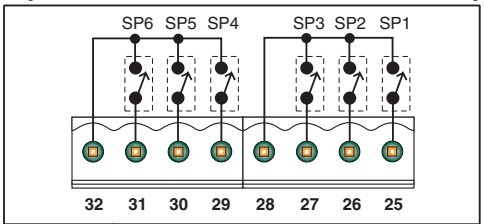
Order Code	Options			
	SP2	SP4	SP1	SP3
OR11	-	-	10A	-
OR12	10A	-	10A	-
OR23	10A	5A	10A	-
OR14	10A	5A	10A	5A
OR15	-	5A	10A	5A
OR16	-	5A	10A	-

Relay Modules with up to four 5A Form A Relays



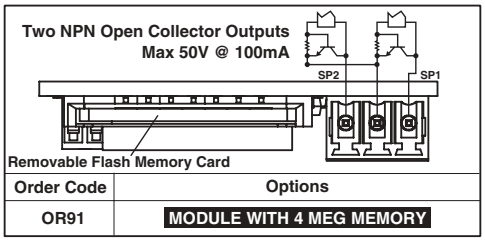
Order Code	Options			
	SP4	SP3	SP2	SP1
OR31	-	-	-	5A
OR32	-	-	5A	5A
OR33	-	5A	5A	5A
OR34	5A	5A	5A	5A

Relay Modules with five or six 5A Form A Relays



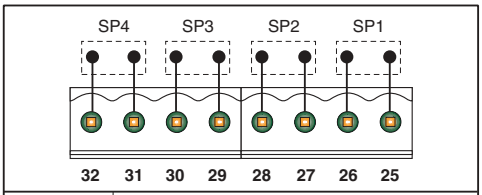
Order Code	Options					
	SP6	SP5	SP4	SP3	SP2	SP1
OR45	-	5A	5A	5A	5A	5A
OR46	5A	5A	5A	5A	5A	5A

Flash Card Memory Module



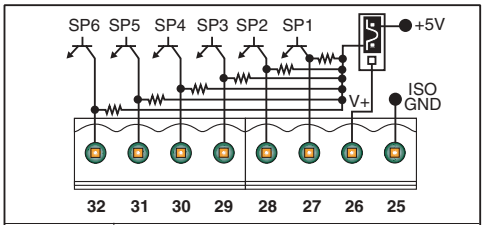
Order Code	Options
OR91	MODULE WITH 4 MEG MEMORY

Relay Modules with up to 4 Independent 400V (210mA DC only) or (140mA AC/DC) SSRs



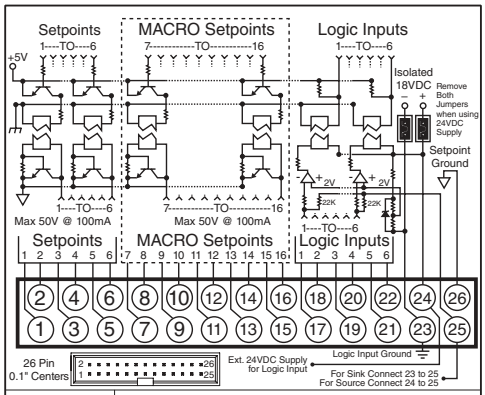
Order Code	Options			
	SP4	SP3	SP2	SP1
OR51, OR61	-	-	-	210mA, 140mA
OR52, OR62	-	-	210mA, 140mA	210mA, 140mA
OR53, OR63	-	210mA, 140mA	210mA, 140mA	210mA, 140mA
OR54, OR64	210mA, 140mA	210mA, 140mA	210mA, 140mA	210mA, 140mA

Open Collector / TTL / 5V Output



Order Code	Options					
	SP6	SP5	SP4	SP3	SP2	SP1
OR71	0 to 5V	0 to 5V	0 to 5V	0 to 5V	0 to 5V	0 to 5V
OR72	0 to V+	0 to V+	0 to V+	0 to V+	0 to V+	0 to V+

Opto Isolated I/0 Module for External Breakout Box with 6 Outputs & 6 Inputs, or 16 Outputs & 6 Inputs



Order Code	Options		
	NPN Open Collector Max 50V @ 100mA		Sink/Source
	Setpoint	MACRO Setpoint	Logic Input
OR81	6 Outputs	-	6 Inputs
OR82	6 Outputs	10 MACRO Outputs	6 Inputs

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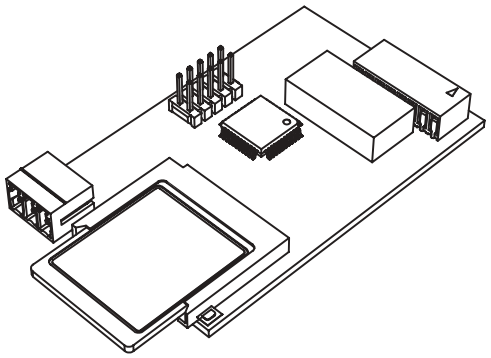
ETHERNET, DEVICENET™ AND OTHER CARRIER BOARD ACCESSORIES FOR DI, GI & FI SERIES

Because of size restraints, Ethernet, DeviceNet and Relay Output Modules do not apply to the FI-Series
See the Texmate Short Form Catalog (Z888) or www.texmate.com for a complete list of all accessories and prices

Ethernet – The Ethernet carrier board has the same analog output pins as the standard carrier board, with 10/100Base-T Ethernet (RJ-45 Socket).

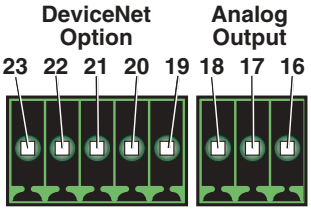
DeviceNet – The DeviceNet carrier board has the same analog pinouts as the standard carrier board, but with a 35mm Pitch Socket. The serial output pins are replaced with DeviceNet pins, as follows:

Pin 19 - Positive (+) 24V.
Pin 20 - Can + (positive).
Pin 21 - N/C.
Pin 22 - Can - (negative).
Pin 23 - Negative (-) 24V.

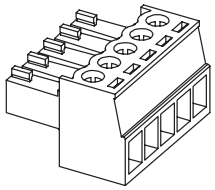


Flash Card Memory Module

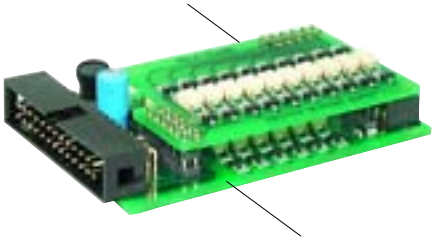
For long term data logging, a Flash Card Memory Module that plugs in to the carrier board output socket is available. Flash Cards are available from 4 to 128 meg. They can be removed and read by a standard card reader, or the data can be downloaded through the serial port or over the internet with an Ethernet converter. The module also has an SSR setpoint output to trigger an external event.



35mm Pitch Screw Terminal



10 Digital Outputs Add-on Board



Standard 6 Digital Inputs/6 Digital Outputs

DIN Rail Relay Module



Ethernet Converter RS-232 or RS-485



80-9F/25M-6



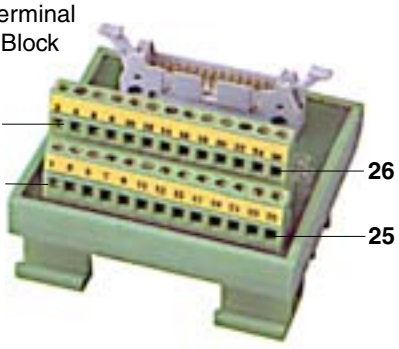
CN-DB/9



80-MOD/PLG



DIN Rail Terminal Block



3M IDC Cable



OM-CABLE232
OM-CABLE485



CV-485/232

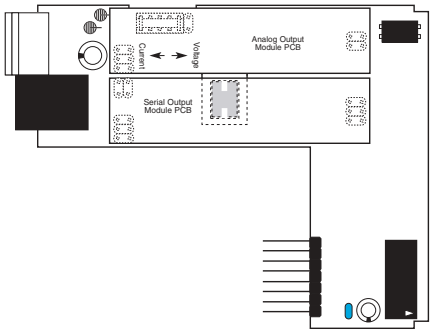


CN-PUSH/FI

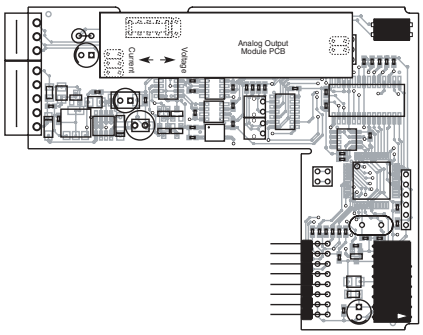


DI Series Carrier Board

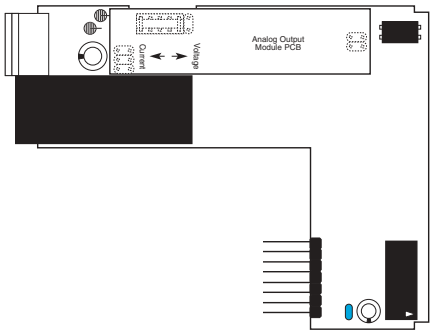
DI Standard Carrier Board

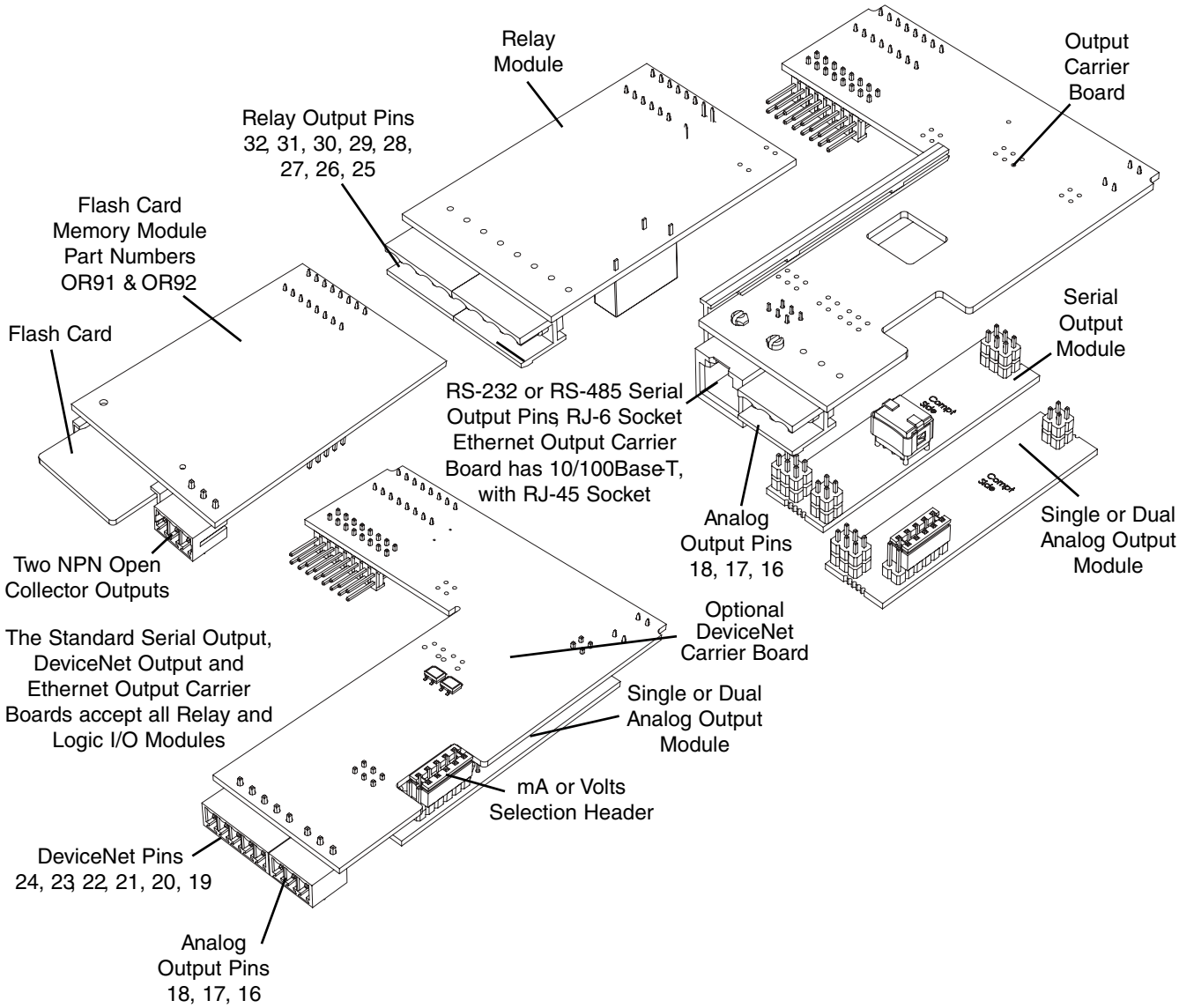


DI Carrier Board with DeviceNet™



DI Ethernet Carrier Board





Meters that use the DI carrier board:

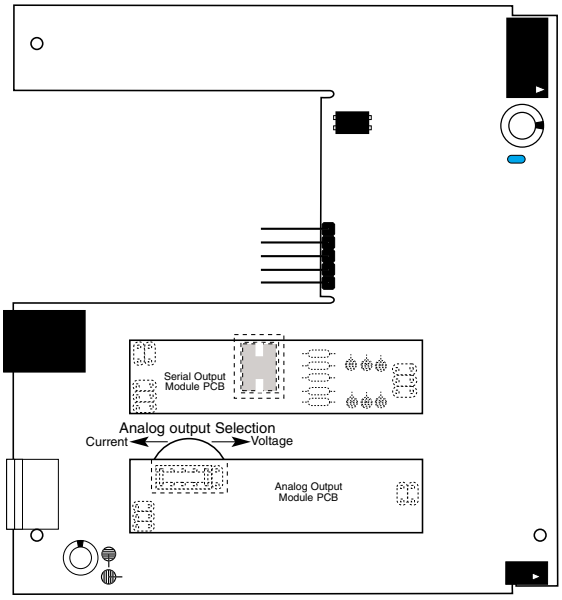
DI-50E .....96x48mm, 5 Digit, E Version
DI-60E .....96x48mm, 6 Digit, E Version
DI-60AE .....96x48mm, 6 Digit, Alphanumeric, E Version
DI-60XE .....96x48mm, 6 Digit, LCD, E Version
DI-602AE .....96x48mm, 6 Digit x 2 Display, E Version
DI-50EAN6.....96x48mm, 5 Digit, 6 Annunciators, E Version
DI-503E .....96x48mm, 5 Digit X 3 Displays, E Version
DI-50EB51 .....96x48mm, 5 Digit, 51 Segment Bar, E Version
DI-802XAE.....96x48mm, 8 Digit X 2 Display LCD Alphanumeric, E Version

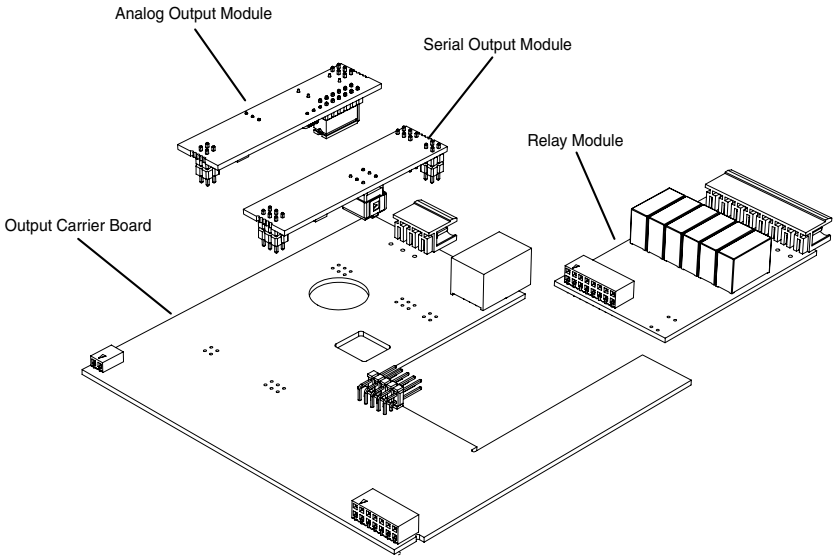
DI-50T .....96x48mm, 5 Digit, T Version
DI-60T .....96x48mm, 6 Digit, T Version
DI-60AT .....96x48mm, 6 Digit, Alphanumeric, T Version
DI-60XT .....96x48mm, 6 Digit, LCD, T Version
DI-50TAN6 .....96x48mm, 5 Digit, 6 Annunciators, T Version
DI-503T .....96x48mm, 5 Digit X 3 Displays, T Version
DI-50TB51 .....96x48mm, 5 Digit, 51 Segment Bar, T Version
DI-802XAT .....96x48mm, 8 Digit X 2 Display LCD Alphanumeric, T Version
DI-60AM.....96x48mm, Text-Based, 6 Digit, Alphanumeric
DI-60XM.....96x48mm, Text-Based, 6 Digit, Numeric LCD

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GI Series Carrier Board

All Relay Output Modules can be used with the GI-Series (see page 52).
Ethernet and DeviceNet do not apply to the GI-Series





Meters that use the GI carrier board:

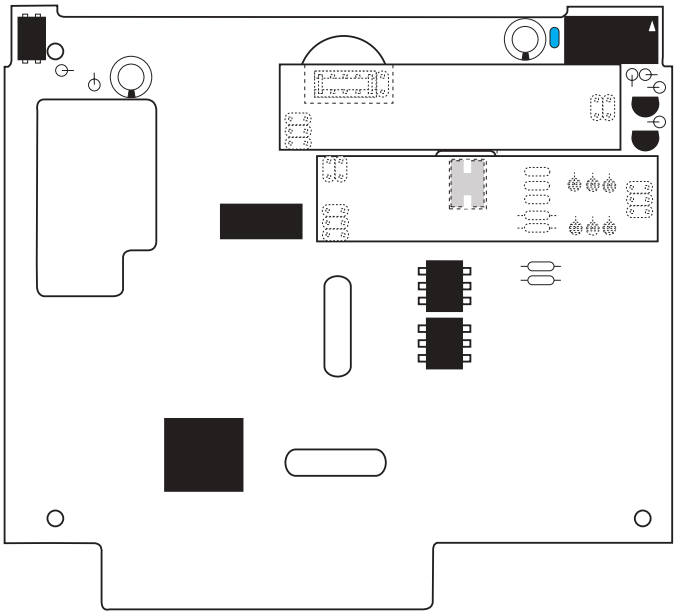
GI-50E .....144X72mm, 5 Digit, E Version
GI-50EB101 ....144X72mm, 5 Digit, 101 Segment Bar, E Version
GI-50T .....144X72mm, 5 Digit, T Version
GI-50TB101 ....144X72mm, 5 Digit, 101 Segment Bar, T Version

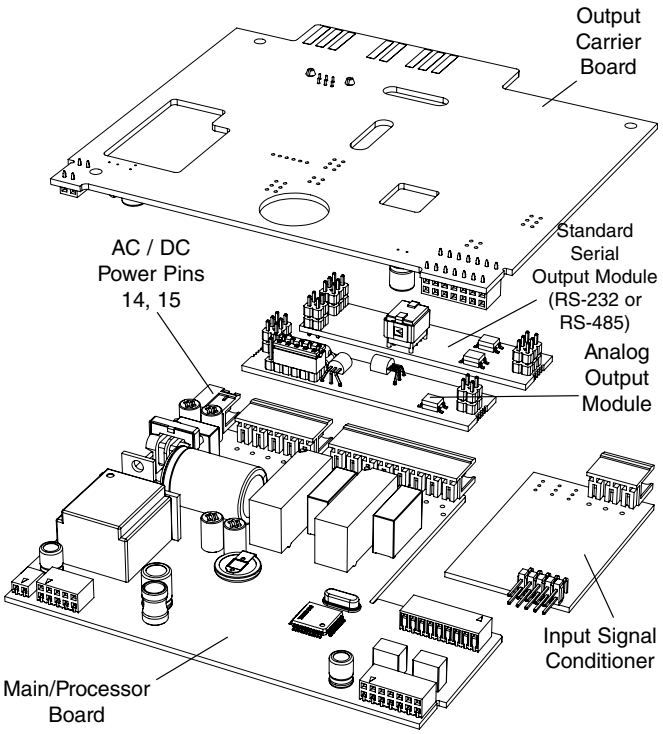




FI Series Carrier Board

Because of size restraints, Ethernet, DeviceNet and Relay Output Modules do not apply to the FI-Series

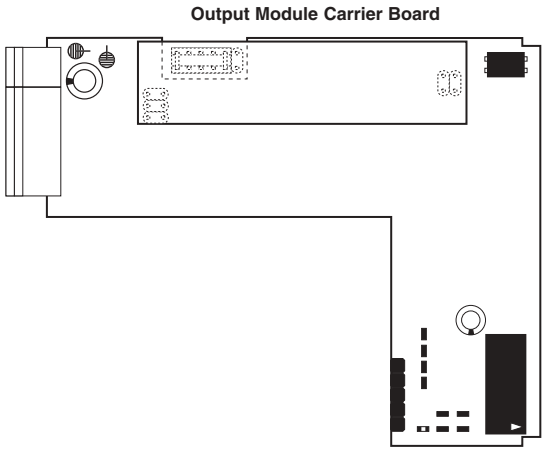


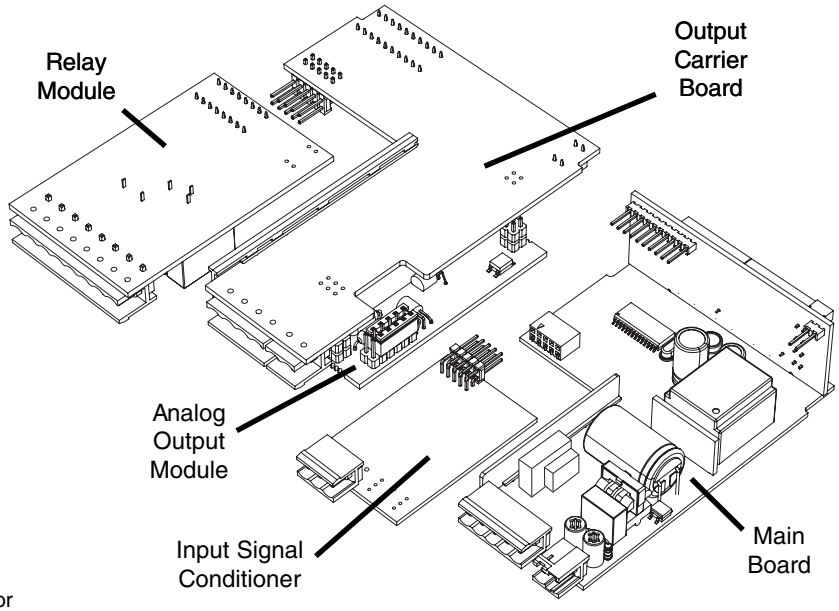


Meters that use the FI carrier board:

FI-B101D50E ....144X36mm, 101 Segment Bar, 5 Digit, E Version
FI-B101D50T ....144X36mm, 101 Segment Bar, 5 Digit, T Version

DL Series Carrier Board

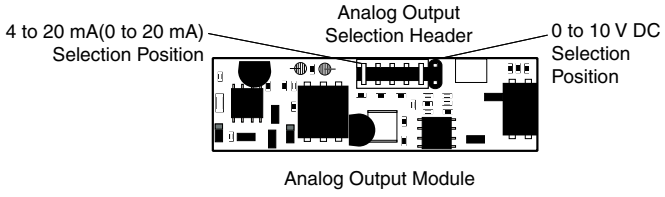


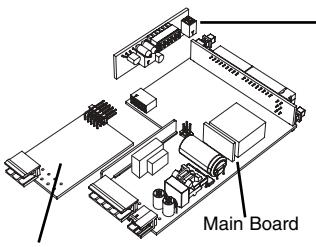


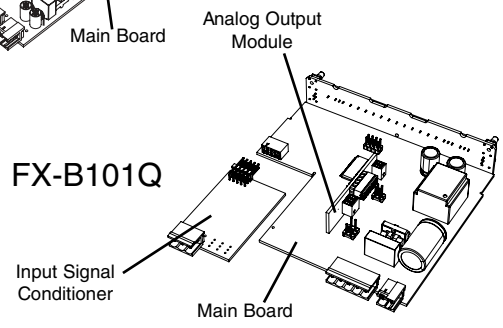
Meters that use the DL carrier board:

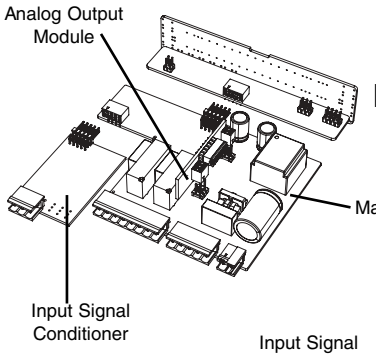
DL-40 .....96X24mm, 4 Digit
DL-40F .....96X24mm, 4 Digit, Frequency
DL-40H.....96X24mm, 4 Digit, Temperature
DL-40PSF .....96X24mm, 4 Digit, Programmable Scale Factor
DL-40RPM .....96X24mm, 4 Digit, RPM

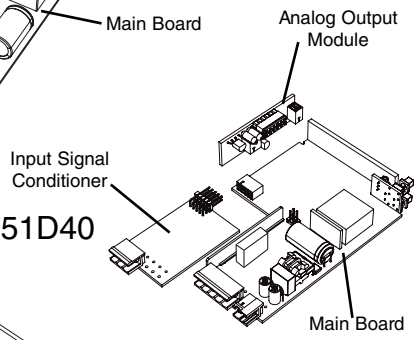
Analog Output Module for the Leopard Family and the Lynx FX-B101Q

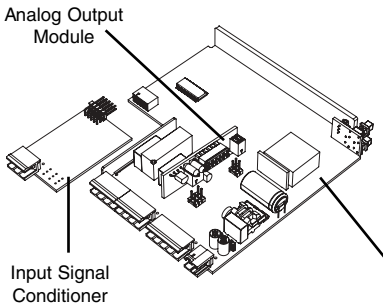












Meters that use this module:

BL-40 .....96x24mm, Leopard, 4 Digit
BL-40F .....96x24mm, Leopard, 4 Digit, Frequency
BL-40H.....96x24mm, Leopard, 4 Digit, Temperature
BL-40PSF .....96x24mm, Leopard, 4 Digit, Programmable Scale Factor
BL-40RPM .....96x24mm, Leopard, 4 Digit, RPM
BL-B51D40 ....96x24mm, Leopard, 51 Segment Bargraph, 4 Digit

FL-B101D40....144x36mm, Leopard, 101 Segment Bargraph, 4 Digit
FL-B101Q .....144x36mm, Leopard, 101 Segment Bargraph
FL-B202Q .....144x36mm, Leopard, Dual 101 Segment Bargraphs
FX-B101Q .....144x36mm, Lynx, 101 Segment Bargraph
PL-B101D40 ..144x24mm, Leopard, 101Segment Bargraph, 4 Digit

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