



Dust and Splash proof  
Membrane Face Plate



# DX-35-HZ

## AC Line Frequency 3 1/2 Digit with 0.56" or 0.8" LEDs in a 1/8 DIN Case

An cost-effective meter for 15.0 to 199.9Hz AC line frequency measurement. Quick and easily installation make it the OEM's choice for switchboard upgrades.

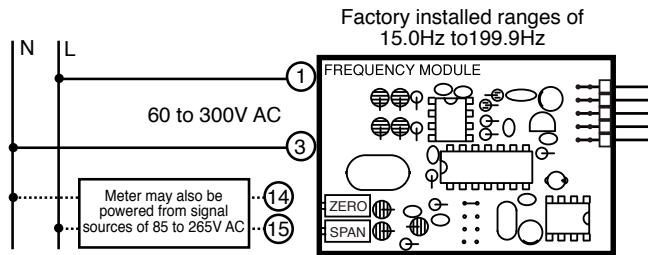
### General Features

The DX-35-HZ is a cost-effective, AC line frequency measuring meter with a factory installed range of 15.0Hz to 199.9Hz. The unique input structure allows safe phase to phase line frequency measurements in multi-phase systems.

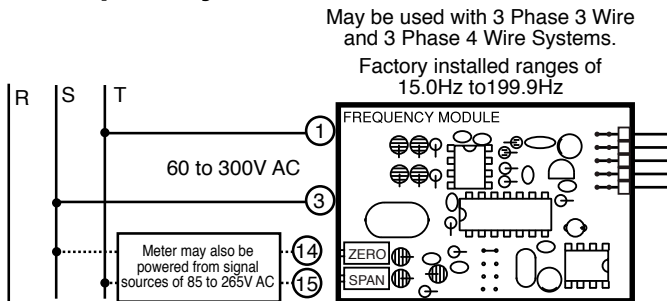
Display Hold and Display Test functions are also provided. The standard meters have a high efficiency red LED display.

### Typical Application Connections

#### AC Line Frequency measurement in Single-phase Systems.



#### AC Phase to Phase Line Frequency measurement in Multi-phase Systems.



### Compatibility

The DX-Series have a matching DIN case style that is complementary to the Leopard and Tiger family of meters. DX-Meters are the OEM's choice for switchboard and process indication. Each model is dedicated to a specific application and designed for quick and easy installation.



### Specifications

**Input Configuration:** Differential with Frequency to Voltage converter. Inputs resistively isolated to 1400V from the internal ground of meter by 1.94MΩ, so that phase to phase measurements up to 300V AC can be safely made.

**Full Scale Ranges:** Factory installed range of 15.0Hz to 199.9Hz.

**Input Impedance:** 4MΩ

**A/D Converter:** 12 bit dual slope

**Accuracy:** ±(0.05% of reading + 2 counts)

**Temp. Coeff.:** 100 ppm/°C (Typical)

**Warm up time:** 2 minutes

**Conversion Rate:** 3 conversions per second (Typical)

**Display:** 3 1/2 digit 0.56" Red LED display(std), 0.56" GREEN, 0.8" RED/GREEN or 0.56" Super Bright RED are optional.

**Decimal Selection:** Header under face plate, X•X•X•X

**Positive Overrange:** 1 (MSD) is displayed with all other digits blank.

**Power Supply:** AC/DC Auto sensing wide range supply

PS1 (std) 85-265 VAC, 50-400Hz / 95-300 VDC @1.5W

PS2 15-48 VAC, 50-400Hz / 10-72 VDC @4.0W

**Operating Temp.:** 0 to 50 °C

**Storage Temp.:** -20 °C to 70 °C.

**Relative Humidity:** 95% (non condensing)

**Case Dimensions:** 1/8 DIN, Bezel: 96x48 mm (3.78"x1.89")

Depth behind bezel: 117 mm (4.61")

Plus 11.8 mm (0.47") for Right-angled

connector or plus 20 mm (0.79") for

Straight-thru connector.

**Weight:** 8 oz., 11 oz when packed.

**Certification:** UL Listed.

### DX-Series, the OEMs choice for switchboard and process indication

**DX-35-DCV** DC volts ±2V/±20V/±200V Header Selectable Ranges, 3.5 digit

**DX-35-DCA** DC mV ±50mV, ±100mV, ±200mV Header Selectable Ranges, 3.5 digit

**DX-35-ACV** AC volts, Scaled RMS (True RMS Opt.). 199.9/300V AC Header

Selectable Ranges, 3.5 digit

**DX-35-ACA** AC amps, Scales RMS (True RMS Opt.). (5 Amp Internal Shunt), 3.5 digit

**DX-35-CL** Process 4 to 20mA (100.0), easily user scalable, 3.5 digit w/Exc. opt

**DX-35-HZ** AC Line Frequency 15.0Hz to 199.9Hz. Up to 300V AC input, 3.5 digit

**DX-35-TC-KF** K Thermocouple with °F, optional °C, 3.5 digit

**DX-35-TC-JF** J Thermocouple with °F, optional °C, 3.5 digit

**DX-35-RTD-F** 100Ω platinum RTD, 3 or 4 wire, °F in 1° resolution, optional °C, 3.5 digit

**DX-40-ACV** AC volts, Scaled RMS (True RMS Opt.). 300.0V AC full scale, 4 digit

**DX-45-ACA** AC amps, Scaled RMS (True RMS Opt.). (5 Amp Internal shunt), 4.5 digit

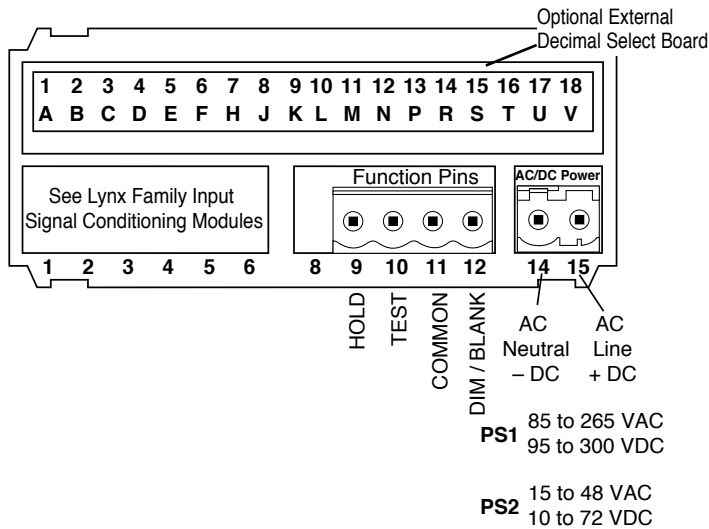
**DX-45-DCV** DC volts ±2V/±20V/±200V Header Selectable Ranges, 4.5 digit

**DX-45-DCA** DC mV ±50mV/±100mV/±200mV Header Selectable Ranges, 4.5 digit

**DX-45-CL** Process 4 to 20mA (100.0), easily user scalable, 4.5 digit w/Exc opt.

## Connector Pinouts

This meter uses plug-in type screw terminal connectors for all connections.



## Pin Descriptions

**Pins 1-Signal Input High:** AC voltages from 60 to 300V can be applied this pin which is resistively isolated to 1400V from the internal ground of meter by 1.94MΩ, so that phase to phase measurements up to 300V AC can be safely made.

**Pins 3-Signal Input Low :** AC voltages from 60 to 300V can be applied this pin which is resistively isolated to 1400V from the internal ground of meter by 1.94MΩ, so that phase to phase measurements up to 300V AC can be safely made.

**Pin 9 - Hold:** If this pin is left unconnected the meter will operate in a free running mode. When this pin is connected to the Common Pin 11, the meter display will be latched. A/D conversions will continue, but the display will not be updated until Pin 9 is disconnected from Pin 11.

**Pin 10 - Display Test:** When this pin is connected to the Common Pin 11, all segments of the display light up and 1888 is displayed. This is used to detect any missing segments in the display.

**Pin 11 - Common:** To Hold, Test or Dim the display, the respective pins have to be connected to this Common Pin.

**Pin 12 - Dim/Blank:** When this pin is connected to the Common Pin 11 the display is blanked out. If it is connected through an external 1KΩ pot, the display may be dimmed.

**Pin 14 & 15 - AC/DC Power Input:** These pins are the power pins of the meter and they only accept a special polarized screw terminal plug that can not be inserted into any other input socket. The standard meter has a auto sensing AC/DC power supply that operates from 85-265 VAC/95-300 VDC (PS1 Std). An optional isolated low voltage power supply that operates from 15-48 VAC/10-72 VDC (PS2) is also available.

## Pin Descriptions (continued)

### OPTIONAL EXTERNAL DECIMAL POINT SELECTION BOARD

**Pins 6, F - Decimal Common:** Connect to these pins to activate decimals.

**Pins 7, H - Decimal XXXX.:** Connect to pin 6 or pin F to activate decimal XXXX..

**Pins 8, J - Decimal XXX.X:** Connect to pin 6 or pin F to activate decimal XXX.X.

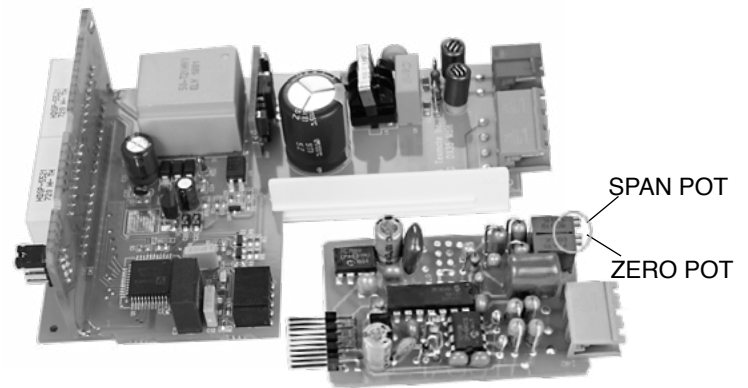
**Pins 9, K - Decimal XX.XX:** Connect to pin 6 or pin F to activate decimal XX.XX.

**Pins 10, L - Decimal X.XXX:** Connect to pin 6 or pin F to activate decimal X.XXX.

## Calibration Procedure

1. Apply a zero input by shorting the inputs to the meter. Adjust the zero trim pot until the meter reads 000.
2. Apply an AC voltage from 60V to 500V AC, of a known frequency.
3. Adjust the Span Pot until the meter displays the frequency being applied.
4. The DX-35-HZ is now calibrated and ready for use.

## Component Layout



## Signal Conditioning Components

### SPAN Potentiometer (Pot)

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

### ZERO Potentiometer (Pot)

The ZERO pot is always to the left of the SPAN pot (as viewed from the back of the meter). Typically it enables the display reading to be offset ±50 counts.

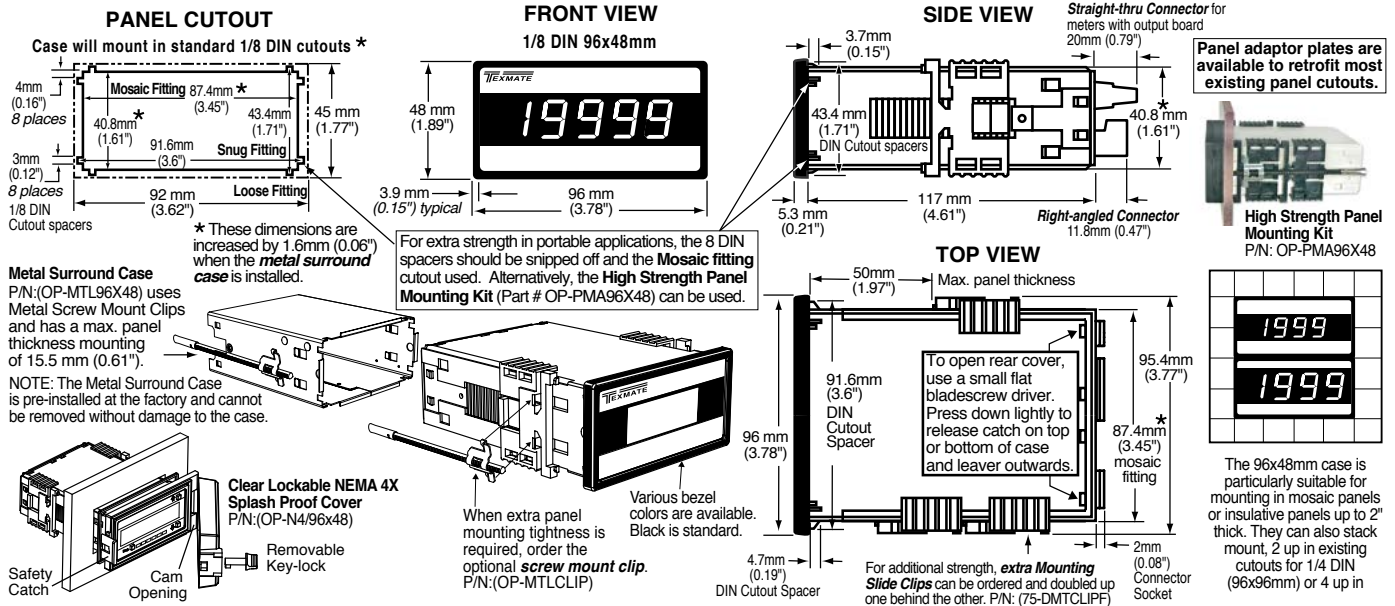
## Opening Back Panel



To open back panel, insert a flat screwdriver or similar instrument in both slots on the top of the case and pry open. The DX-Series meters slide out from the rear of the case as a complete assembly.



# DX Case Dimensions and Panel Cutouts



## Ordering Information

### Standard Options for this Model Number

Part Number	Description	List
-------------	-------------	------

► **BASIC MODEL NUMBER** Includes plug in type screw terminals, standard display and standard power supply unless optional versions are ordered.  
**DX-35-HZ**..... AC Line Frequency, 15.0 to 199.9Hz .....

### ► DISPLAY

**DR** . . . Red LED, 0.56 inch high . . . . .  
**DB** . . . Super-bright Red LED, 0.56 inch high . . . . .  
**DG** . . . Green LED, 0.56 inch high . . . . .  
**LG** . . . Large Green LED, 0.8 inch high . . . . .  
**LR** . . . Large Red LED, 0.8 inch high . . . . .

### ► POWER SUPPLY

**PS1** . . . 85-265VAC/95-300VDC . . . . .  
**PS2** . . . 15-48VAC/10-72VDC . . . . .

### Special Options and Accessories

Part Number	Description	List
-------------	-------------	------

### ► SPECIAL OPTIONS (Specify Inputs or Outputs & Req. Reading)

**CR-CHANGE** . . . Calibrated Range Change to another Standard Range. . .  
**CS-3/3.5/4** . . . Custom display scaling within std. ranges . . . . .  
**OP-DXEXTDP** . . External Dec. Pt. W/Conn. Option-Factory Installed . .

### ► ACCESSORIES (Specify Serial # for Custom Artwork Installation)

**75-DBBZ9648F** . . Extra Black Bezel for 96x48mm Case . . . . .  
**75-DMTCLIPF** . . Side Slide Brackets (2 pc) - extra set, extra strength . . . . .  
**76-D35G-N4** . . . NEMA 4 Green LED Faceplate, Factory Installed . . . . .  
**76-D35LG-N4** . . . NEMA 4 Large Green LED Faceplate, Factory Installed . . . . .  
**76-D35LR-N4** . . . NEMA 4 Large Red LED Faceplate, Factory Installed . . . . .  
**76-D35R-N4** . . . NEMA 4 Red LED Faceplate, Factory Installed. . . . .  
**CN-L18** . . . . . Dual Row 18 Pin Edge Connector, Solder Type . . . . .  
**DN.CAS96X48B** . . Complete 96 X 48 mm Case with bezel . . . . .  
**OP-MTLCILP** . . . Screw Mount Clips (2 pc) - to screw tighten slide brackets . . . . .  
**OP-MTL96X48** . . . Metal Surround Case, includes screw mounting clips . . . . .  
**OP-N4X/96X48** . . . 96x48mm clear lockable front cover-NEMA 4X, splash proof . . . . .  
**DU-CASEDES** . . . Clear adhesive descriptors label for face plate . . . . .

### WARRANTY

Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which shall, within the applicable period after shipment, be returned to Texmate's facility, transportation charges pre-paid, and which are, after examination, disclosed to the satisfaction of Texmate to be thus defective. The warranty shall not apply to any equipment which shall have been repaired or altered, except by Texmate, or which shall have been subjected to misuse, negligence, or accident. In no case shall Texmate's liability exceed the original purchase price. The aforementioned provisions do not extend the original warranty period of any product which has been either repaired or replaced by Texmate.

### USER'S RESPONSIBILITY

We are pleased to offer suggestions on the use of our various products either by way of printed matter or through direct contact with our sales/application engineering staff. However, since we have no control over the use of our products once they are shipped, NO WARRANTY WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE is made beyond the repair, replacement, or refund of purchase price at the sole discretion of Texmate. Users shall determine the suitability of the proDxt for the intended application before using, and the users assume all risk and liability whatsoever in connection therewith, regardless of any of our suggestions or statements as to application or construction. In no event shall Texmate's liability, in law or otherwise, be in excess of the purchase price of the product.

Texmate cannot assume responsibility for any circuitry described. No circuit patent or software licenses are implied. Texmate reserves the right to change circuitry, operating software, specifications, and prices without notice at any time.



450 State Place • Escondido, CA 92029  
 Tel: 1-760-598-9899 • USA 1-800-839-6283 • 1-800-TEXMATE  
 Fax: 1-760-598-9828 • Email: orders@texmate.com • Web: www.texmate.com

*DX-35-HZ Technical Manual Copyright © 2018 Texmate Inc. All rights reserved. Published by: Texmate Inc. USA. Information in this Technical Manual is subject to change without notice due to correction or enhancement. The information described in this manual is proprietary to Texmate, Inc. and may not be copied, reproduced or transmitted, in whole or in part, in connection with the design, manufacture, or sale of apparatus, device or private label product without the express written consent of Texmate, Inc.*