



**PROVEN FILTER AND MODULATION  
CIRCUITRY OPTIMIZES PERFORMANCE IN  
HARSH ENVIRONMENTS.**



The DIN Mount **Model 5M30** is a high-reliability conditioner for measurement of displacement, force, pressure, and other parameters obtained with a **linear variable differential transformer (LVDT)** or other variable transformer transducer.

The **5M30** delivers filtered analog output of  **$\pm 5$  Vdc**,  **$\pm 10$  Vdc** or **4-20 ma**; switch selectable. Based on the synchronous carrier-demodulator principle, the 5M30 can handle a remarkably wide range of signals from 16 to 1600 mV/V full scale — Configuration and all adjustments are performed through front panel controls - simplifying transducer setup and calibration. There is no need for the user to open the DIN case for jumper or switch settings changes.

- **regulated, remotely sensed AC excitation**
- **auto-phase and manual phase selection**
- **high-stability amplification**
- **selectable low-pass active filtering**
- **$\pm 100\%$  zero offset adjustment**

The **5M30** provides regulated AC excitation with remote sensing for applications which require long cable lengths<sup>1</sup> along with a zero offset adjustment of  $\pm 100\%$ .

**Selectable high-level, noise-free analog output** : The 5M30 analog output can be switched selected via the front panel controls for  $\pm 5$  Vdc or  $\pm 10$  Vdc or 4-20 mA.

**Powerful low-pass active filtering** is selectable for the analog output, for removal of unwanted high-frequency measurement-signal components and the elimination of aliasing errors, if the module's output is subsequently sampled.



# MODEL 5M30

LVDT CONDITIONER  
[5M SERIES]

**FRONT PANEL CONTROLS ALLOW S EASY; QUICK SET-UP AND CALIBRATION OF THE LVDT SENSOR AND ANALOG OUTPUT.**

**COARSE and FINE BALANCE CONTROLS** 100% zero authority in compression or extension of the LVDT.

**COARSE and FINE SPAN CONTROLS** stable gain adjustment for long and short stroke LVDTs with excitation sensing.

**PHASE ADJUSTMENT** Used to synchronize primary and secondary phase shifts due to sensor winding inductance and cabling.

**MASTER / SLAVE CONTROL** Eliminates “cross talk” when multiple units or transducers are mounted in close proximity of each other.

## SPECIFICATIONS

**Housing:** DIN mount housing; non-removable screw terminals.

**Dimensions:** 114.5 mm D x 22.5 mm W x 99.0 mm H

**Power Requirements:** 11- 28 Vdc; 2 watts max.

**Operating Temperature Range :** -10° C to 70° C (14° F to 158° F)

**Operating Relative Humidity :** 5% to 95%, noncondensing

**Transducer Types:** Virtually any variable transformer transducer, including 4-, 5-, and 6-wire LVDT’s and 3- and 5-wire Variable Reluctance Transducers (see diagram, below, for typical cabling)

**Input Ranges (Nominal, Full-Scale):**

Low Range : 16 to 160 mV/V

High Range: 160 to 1600 mV/V

**Excitation Frequency:** 5.00 kHz

**Excitation Voltage:** Nominal 2.77 Vac rms

## FRONT PANEL SWITCH SETTINGS

	Left	Right
<b>Output Mode</b>	Current	Voltage
<b>Voltage Level</b>	10 Vdc	5 Vdc
<b>Current Level</b>	4-12-20ma	4-20ma
<b>Filter Setting</b>	1khz	100 Hz
<b>Filter Setting</b>	10 Hz	100 Hz
<b>Sync Mode</b>	Slave	Master
<b>Zero Adj</b>	Extended	Normal
<b>Sensor mv/V Range</b>	High (160-1600)	Low (16-160)
<b>Phase Mode</b>	Manual Phase	Auto-Phase

### Amplifier:

**Normal-Mode Range:** 5 V rms operating;  $\pm 28$  V without damage

**Input Impedance (Differential):** 200 k $\Omega$

**Offset:** vs. temperature:  $\pm 30$  ppm/°C; vs. time:  $\pm 10$  ppm/month

**Gain Accuracy:** Limited only by calibration accuracy

**Gain Stability:** vs. temperature:  $\pm 30$ - ppm/°C; vs. time:  $\pm 10$  ppm/month

**Analog Filters :** Low pass; Three-pole modified butterworth selectable at 10, 100 or 1000 Hz

**Analog Outputs :** Filtered  $\pm 0$  to 5 Vdc or  $\pm 0$  to 10 Vdc or 4-20 mA. Selectable via front panel - 20 % over-range in voltage mode

**Status Indicator Lights:** Power and analog over-range

**CE Directive** 2014/30/EU Electromagnetic Compatibility  
2014/35/EU Low Voltage Safety

