



# DM7010

## FREQUENCY INPUT

### FIELD RANGEABLE ISOLATED TRANSMITTER

#### FEATURES

- Spans from 10 Hz to 50 KHz
- Selectable Response Time & Filter
- Plug-In Terminal Blocks
- Standard DIN-Rail Mount with Easy Snap-On Snap-Off
- User-Settable Input and Output Ranges
- Fully Labeled Jumper Positions for Easy Range Settings
- User Write-On Label
- Connections and Ranging Readily Accessible from the Front
- Choice of Power Options
- Permanent Warranty



#### DESCRIPTION

The DM7010 is a field rangeable frequency input signal conditioner. It provides several choices of voltage or current outputs proportional to the frequency of the input. A Normal - Reverse selection is available which reverses the output signal logic (ie 20 - 4mA vs 4 - 20mA). The input is galvanically isolated from the output and power source.

Response time can be set by the user with a selection of jumpers on the front panel.

The wide input voltage range allows the product to be used with low level magnetic pickups, for flow or speed applications, as well as digital signals or direct power line monitoring.

A selectable pull-up resistor allows the product to be driven from a switch closure or open collector transistor. It will also accept CMOS or TTL digital inputs.

The DM7010 is housed in an aluminum case with a stainless steel DIN rail mount.

The terminals on the front are pluggable, for ease in wiring. The snap-on front cover has a write-on label.

Several power input options are available.

#### TYPICAL APPLICATIONS

Typical applications for the DM7010 are monitoring flow, conveyor speed, power line frequency on portable generators, and motor rotation speed.

#### SPECIFICATIONS

##### INPUT

- Frequency Range  
10 Hz to 50 kHz
- Impedance  
100,000 ohms
- Coupling  
AC
- Voltage range  
50 mV to 700 V p-p
- Span Select  
(User settable)  
12, 25, 50, 100, 200, 400, 800, 1600, 3200, 6400, 12500, 25000 and 50000 Hz
- Span adjustment  
+5%, -55% of selected span
- Zero adjustment  
±30% of selected span
- Offsets  
(User settable)  
None
- Pull-Up Resistor  
4.7 kilohm (+5 VDC)

##### OUTPUT

- Modes  
Normal/  
Reverse Acting

- Range  
(User settable)  
0/.25, 0/1, 0/5, 0/10, -5/5, & -10/10 VDC  
0/1, 0/4, 0/20, & 4/20 mA dc
- Accuracy  
0.1% of span
- Step response time  
see FILTER CAPACITOR SELECTION CHART
- Ripple  
(peak-to-peak)  
see FILTER CAPACITOR SELECTION CHART
- Input to Output Linearity  
±0.01% of span

##### COMMON MODE REJECTION

120 dB DC to 60 Hz

##### ISOLATION, OUTPUT/INPUT

>500 megohms

##### BREAKDOWN, OUTPUT TO INPUT

>1000 volts RMS sinewave

##### BREAKDOWN, POWER CIRCUITRY

>1500 volts RMS sinewave

##### OPERATING TEMPERATURE

-13° to 140°F  
(-25° to 60°C)

##### TEMPERATURE STABILITY

±(0.01% of span)/°C

##### POWER

- Wattage  
2.5 W max
- AC Options  
115 VAC ±10%, 50/60 Hz  
230 VAC ±10%, 50/60 Hz  
24 VAC ±10%, 50/60 Hz
- DC Options  
12 VDC nominal  
(10 to 15 VDC)  
24 VDC nominal  
(21 to 28 VDC)

FILTER CAPACITOR SELECTION CHART

FREQUENCY SPAN SETTING	MINIMUM CAPACITOR* SETTING FOR LESS THAN 0.1% RIPPLE PEAK-PEAK		MINIMUM CAPACITOR* SETTING FOR LESS THAN 0.5% RIPPLE PEAK-PEAK	
	CAPACITOR (µF)	RESPONSE TO 99% (*SEC)**	CAPACITOR (µF)	RESPONSE TO 99% (*SEC)**
HERTZ				
12	2.2	110	1.0	50
25	2.2	110	1.0	50
50	1.0	50	0.47	24
100	1.0	50	0.47	24
200	0.47	24	0.47	24
400	0.47	24	1.0	5
800	0.47	24	0.047	2.4
1600	0.1	5	0.047	2.4
3200	0.047	2.4	0.047	2.4
6400	0.047	2.4	0.01	0.5
12500	0.01	0.5	0.0047	0.24
25000	0.01	0.5	0.0047	0.24
50000	0.0047	0.24	0.001	0.05

**ORDERING INFORMATION**

**POWER**

- 115 VAC, 50/60 Hz Power
- 230 VAC, 50/60 Hz Power
- 24 VAC, 50/60 Hz Power
- 24 VDC Power Transformer Isolated
- 12 VDC Power Transformer Isolated

**INPUT**

**Select Units**

- Hz     KHz

**Enter Input**

Full Scale

**OUTPUT**

**Select Units**

- VDC     mADC

**Enter Output**

Zero Scale

Full Scale

**Select Output Logic**

- Normal Acting
- Reverse Acting

**OPTIONS**

- Conformal Coating

**TAGS**

Specify Tag Numbers  
Tag number is typed on product label at no charge.

**Enter Tag Number(s)**

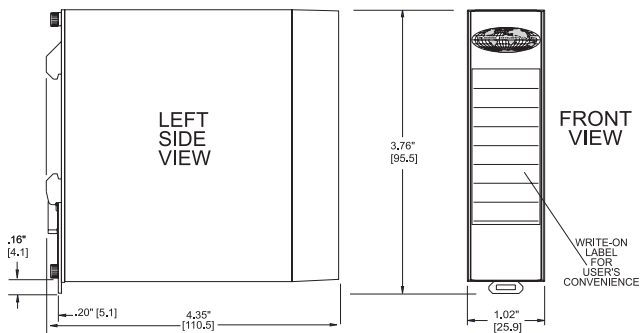
**ACCESSORIES**

**DM7010**

DR1                      DIN-Rail, 35 mm Symmetrical, 39 inches (1 meter)                      QTY \_\_\_\_\_

**DIMENSIONS**

Inches [mm]



**CONNECTIONS**

Input +	Input +
Input -	Input -
SHLD	Shield
TERM 4	No Connection
Output +	Output +
Output -	Output -
TERM L1 +	Power AC L1 or DC +
TERM L2 -	Power AC L2 or DC -