



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)

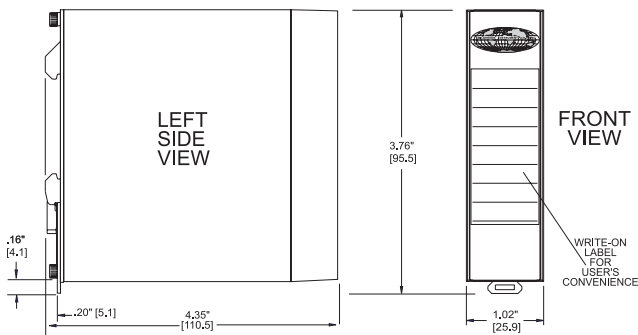
ACCESSORIES

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 - |



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