Micromann universal analogue to frequency converters accept an analogue signal and convert it to a proportional output frequency.

- Accept any common current or voltage signal format
- 24Vdc supply for active input devices
- Frequency pulse output
- Programmable low-cut-off level (to prevent accumulated errors at low input levels)
- Inbuilt linearisation for square law signals
- Single alarm channel
- Display in Engineering units
- Complete isolation
- AC or DC powered
- Removable, screw-type, terminal blocks
- Compact metal housing
Micromann Series Analogue to Frequency Converters

General Technical Data

Display
Type
Full 4 digit, red 7mm LED

Scaling
Shows the output frequency in pulses per sec (Hz), pulses per minute or pulses per hour.

Display range
0 to 9999

Status indicators
Trip1 / Processor status

Inputs
Input Type
Analogue current/voltage signals

Standard range limits
-55.00mA to +55.00mA or
-55.00V to +55.00V
(without recalibration)

Input impedance
22Ω (current inputs)
1MΩ (voltage inputs)

Resolution
1μA/1mV per bit for small ranges

Minimum recommended span
1mA or 1V

Linearisation
Linear or square root

Transducer supply
24Vdc (to 25mA) output

Power Supply
Type
AC or DC powered

AC
110Vac (100-132Vac) at 47-63Hz or
240Vac (200-264Vac) at 47-63Hz

DC
12 to 50Vdc (other voltages on request)

AC 6VA or 6W at 24Vdc

Performance
Linearity
Better than ±0.1% typical

Accuracy
Better than ±0.1% typical

Repeatability
±0.05% of span

Temperature drift
Less than 0.02% span per °C

Long term drift
0.1% per 10,000 hours

Reponse time
320ms for 10-90% output change

Input step response
Programmable (from 250mS to 32s)

Sampling rate
5 samples per second

Temperature drift
Less than 0.02% span per °C

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0.1% per 10,000 hours

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320ms for 10-90% output change

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Input/Output/Case

Insulation Co-ordination
Ports
Input / Output / Case

Rated Insulation Voltage
300Veff

Overvoltage Category
III

Impulse Withstand
4kV (1.2 / 50)

Isolation
2 kV (between ports)

Environmental Conditions
Operating temperature
0 to 60 °C

Storage temperature
-25 to +70 °C

Relative humidity
10–90% (non-condensing)

Housing
Type
Registered Design, Dual DIN rail mount, Aluminium Enclosure

Dimensions
See diagram

Weight
0.5kg

Connection type
Plug in terminal blocks with screw connections

Options
PC

FPS

Approvals
Micromann Series
EN50178:1998
BS EN 61326:1998 + A2

Connections

Terminal
1 24Vdc (out)
2 Current +
3 Common –
4 Voltage +
5 Not used
6
7 Link to change the set-up
8 Security Link
9 Neutral (-)
10 Live (+)
11 See individual units
12 Alarm and Pulse outputs
13
14 Not Used
15
16 Case Earthing is via a stud on lower side of case

Right Hand Side View

Effective depth:
120mm (Top Hat 35mm +/- 0.3, DIN 46277-3, EN 50022)
125mm (G - Rail 35mm +/- 0.3, DIN 46277-1, EN 50035)

To surface (including rail/mounting plate)

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Micromann Series Analogue to Frequency Converters (UPIR & UPIT)

UPIR Analogue to Frequency Converter
- SPDT relay contact frequency output
- For frequencies up to 25Hz
- Single SPDT alarm channel

UPIT Analogue to Frequency Converter
- Open collector transistor output
- For frequencies up to 1kHz
- Single open collector transistor alarm channel

Technical Data

**Pulse output**
- **Type**: SPDT relay contact closures
- **Max frequency**: 25Hz
- **Output resolution**: Per second, minute or hour
- **Pulse rate units**: Fully isolated

**Alarm output**
- **Type**: SPDT relay contact
- **Isolation**: Normally Energised (NE) or Normally De-energised (ND)
- **Coil energisation**: Normally de-energised (“off”)

**Alarm reset**
- Manual or automatic
- From 0 to 4200 seconds
- In 1 display unit increments

**Alarm time delay**
- From 0 to 4200 seconds
- In 1 display unit increments

**Deadband range**
- Any value in the display range

**Setpoint range**
- Any value in the display range

**Contact rating**
- 3A @ 240Vac (resistive load)
- 3A @ 24Vdc/110Vac (resistive load)

**Note**: A suppressor capacitor should be used (to increase contact life) when switching inductive loads.

**Isolated O/C transistor output**
- **Type**: normally energised (“on”) or normally de-energised (“off”)
- **Max frequency**: 999.9Hz
- **Output resolution**: 2 microseconds
- **Isolation**: Pulse output shares a common negative return with the alarm output

**Isolated O/C transistor output**
- **Type**: normally energised (“on”) or normally de-energised (“off”)
- **Max frequency**: 2 micro seconds
- **Output resolution**: Per second, minute or hour
- **Isolation**: Pulse output shares a common negative return with the alarm output

**Connections**

<table>
<thead>
<tr>
<th>Terminal</th>
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</tr>
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<tbody>
<tr>
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<td>0V</td>
</tr>
</tbody>
</table>

**Ordering Information**

**Specify as**

**Type (Model Supply)**
- UPIR 12-50Vdc 7940010908

**Cat. No.**
- 7940010908

**Note**: For other ranges please specify as UPIR 1 where:
1 = Power Supply Voltage