

Micromann Universal, Auxiliary Powered, Alarms

UCVR Current/Voltage Inputs
URTR Resistive Temperature Detector Inputs
UTCR Thermocouple Inputs
UHZR Frequency Inputs
CNDR Conductivity sensor Inputs
XFAR Extended Function Alarm



Micromann universal alarms monitor and display process measurements. Each model covers a range of similar signal and sensor types

- Two versatile alarm channels with LED status indication
- Dual SPDT relay outputs
- Display in Engineering units
- Complete isolation
- AC or DC powered
- Removable, screw-type, terminal blocks
- Compact metal housing



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Universal Alarm Modules

Description



The Micromann series are fully isolated, microprocessor based, alarm modules for use with most common process measurement signals and sensors.

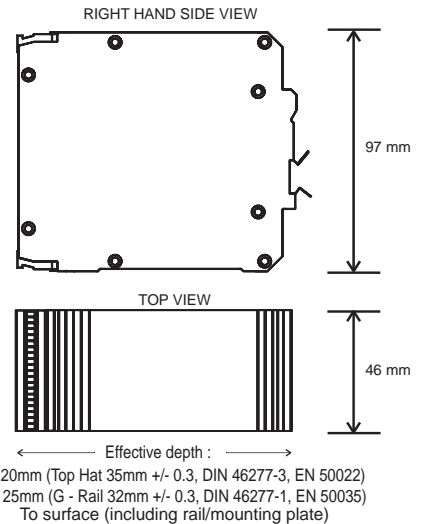
You can program all features of Micromann operation through the front panel keypad. When the set-up is complete, you simply remove the security link to protect the setup.

You can tailor each alarm's operation individually during setup. If necessary, you can also allow setpoint adjustment (from the front panel) during normal operation.

Alarm operation can be set to 'manual reset' so that active alarms will remain tripped until manually cleared.

General Technical Data

Display	
Type	Full 4 digit, red 7mm LED
Scaling	to display in % or engineering units
Display range	-999 to 9999
Status indicators	Trip1 / Trip 2 / Processor status
Alarm outputs	
Type	Two SPDT relay contact outputs
Rating	3A at 250Vac/30Vdc
Setpoints	Any value within the display range
Deadband	From 1 display count
Alarm action	High alarm or Low alarm
Output sense	Normally de-energised or energised
Alarm reset	Automatic or manual
Alarm timer delay	From 0 to 4200 seconds
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)
Power Usage	AC 6VA or 6W at 24Vdc
Housing	
Type	Dual DIN rail mount, Anodised Aluminium Enclosure
Dimensions	See diagram
Weight	0.5kg
Connection type	Plug in terminal blocks with screw connections
Performance	
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
Setup retention	100 years minimum
Insulation Co-ordination	
Ports	Input / Relay One / Relay Two / Power Supply / Case
Rated Insulation Voltage	300Veff
Overtoltage 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
Pollution Degree	2
Relative humidity	10-90% (non-condensing)
Options	
FPS	Custom transducer power supply
Approvals	
Micromann Series	 E256486  LV Directive EMC
Standard	
CAN/CSA C22.2 No. 1010.1:92 UL61010-1: 2004	
EN50178:1998 BS EN 61326:1998 + A2	



Connections

Terminal	Signal	
1	See individual models	Input signals
2		
3		
4		
5		
6		
7	Link to change the set-up	Security Link
8		
9	Neutral (-)	Power supply
10	Live (+)	
11	Normally Closed	Alarm Channel One
12	Common	
13	Normally Open	
14	Normally Closed	Alarm Channel Two
15	Common	
16	Normally Open	
Case	Earthing is via a stud on lower side of case	

Universal Alarm Modules



UCVR Current/Voltage

- Convert, filter and Isolate current and voltage signals
- Power for active input devices
- Linearises square law signals
- Bipolar inputs

UTCR Temperature (T/C)

- Select J, K, N, T, E, B, S, R or mV inputs
- Temperature Display in °C/°F
- Burn-out alarm
- CJC Temperature display

URTR Temperature (RTD)

- Accepts 2-wire and 3-wire PT100 RTD inputs
- Temperature Display in °C/°F
- Automatic lead length compensation

Technical Data

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

Maximum input impedance

1kΩ (e.g., IS barrier resistance)

Display

Scaling

to display in % or engineering units

Display range

-999 to 9999

Resolution

0.001 engineering units

Performance

CJC tracking error

Less than 0.02% per °C ambient change

Lead length compensation

Better than 0.05% error for equal changes in lead resistance

Input Connections

Terminal	Signal
1	24Vdc (out)
2	Current +
3	Common -
4	Voltage +
5	Not used
6	

Terminal	mV Signal	T/C Signal
1	mV +	CJC Board (white dot to terminal 2)
2	mV -	
3		
4		
5		
6	Not used	

Terminal	Signal
1	Not used
2	A
3	B
4	Bsense
5	Not used
6	Not used

Ordering Information

Specify as

Where

Type (Model Supply)	Cat. No.
UCVR 12-50Vdc	7940010174

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

Type (Model Supply)	Cat. No.
UTCR 12-50Vdc	7760000017

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

Default Burnout Action is Upscale. For Downscale please specify on order.

Type (Model Supply)	Cat. No.
URTR 12-50Vdc	7940011087

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

Notes

Universal Alarm Modules



UHZR Frequency

- Connects directly to a wide range of frequency sources
- Power for active input devices



CNDR Conductivity

- Suits any conductivity probe
- Autoranging
- Probe temperature compensation
- Programmable cell constant
- Linearises probe characteristic



XFAR Extended function current/voltage alarm

- Rate of change alarms (increase, decrease or both)
- Deviation alarms (deviation from setpoint)
- Alarm inhibit inputs (for each channel)
- Loss of signal alarms (for elevated zero signals)

Technical Data

Inputs			
Input Type	Programmable frequency (includes debouncing for voltfree contacts)	Conductivity cell, conductance and Pt100 RTD (probe temperature compensation)	Process current or voltage signals
Standard range limits	Any range inside the limits 0 to 10kHz (or 0-10Hz for debounced volt-free contacts)	Any range inside the limits 0 to 20,000µS using 4 selectable ranges: 0-200µS; 0-1,000µS; 0-5,000µS; or 0-20mS.	Any range inside the limits -22.00mA to +22.00mA or -11V to +11V
Minimum recommended span	0.001Hz	20% of selected range	2mA or 1V
Input voltage range	50mV to 250V (ac and dc) others on request		
Sensor supply output	Nominally 12Vdc to 25mA others on request (see /FPS option)		Nominally 24Vdc to 25mA others on request (see /FPS option)
Temperature range		0-200°C (for RTD)	Type Opto isolated voltage
Cell Constants		0-01 to 99.99/cm	Sense Active high
Excitation voltage		Less than 6V p/p @ 400Hz	High Voltage 4V to 40V
Lead length compensation		< 2% of change for equal changes in lead resistance (up to 30Ω)	Low Voltage <3V
Temperature Compensation		Linear or user defined up to 5 points	Isolation 50V (ac and dc)
Input impedance			22Ω (Current) or 1mΩ (Voltage)
Display			
Scaling	to display in % or engineering units	µS, mS, µS/cm, mS/cm or °C	to display in % or engineering units
Display range	-999 to 9999	0-200.0µS (0.1µS resolution) 0-1,000µS (1µS resolution) 0-5,000µS (1µS resolution) 0-20.00mS (0.01mS resolution) 0-200.0°C (0.1°C resolution)	-999 to 9999
Resolution	0.001 engineering units		0.001 engineering units
Performance			
Repeatability	±0.02% of span	±0.05% of span	
Noise immunity		40dB CMRR (1.5kVrms limit)	
Notes			

Input Connections

Terminal	Signal
1	12Vdc (out)
2	Pull Up/Down
3	0V
4	Low Voltage (<24Vdc) Signal +
5	Signal -
6	High Voltage (>24Vdc) Signal +

Terminal	Cell	Pt100 RTD
1	Not used	
2	A	
3	B	
4		A
5		B
6		B _{sense}

Terminal	Signal
1	24Vdc (out)
2	Current +
3	Input -
4	Voltage +
5	Inhibit input common
6	Channel one Inhibit +
7	Channel Two Inhibit +

Notes

Ordering Information

Specify as	Type (Model Supply)	Cat. No.	Type (Model Supply)	Cat. No.	Type (Model Supply)	Cat. No.
Where	UHZR 12-50Vdc	7940015213	CNDR 12-50Vdc	7940017921	XFAR 12-50Vdc	7940014450

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

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

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