

Micromann R Series

Universal configurable module for alarm monitoring

Alarm modules from the Micromann R Series feature two relay outputs with changeover contacts for the purpose of signal monitoring. They come standard with configurable functions for setpoint, deadband, high/low-trip switching behaviour, coil energization and a variable timer delay on each channel.

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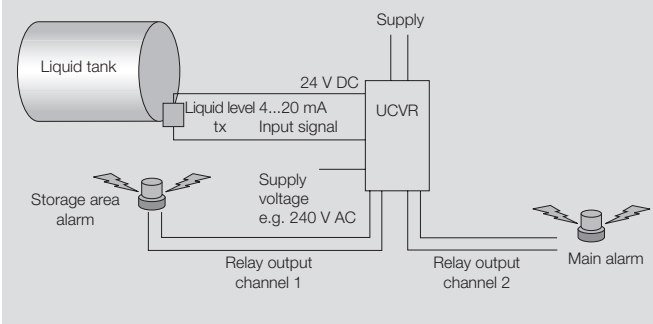
The XFAR offers additional extensions to the standard functions. This includes an optional alarm function which can be configured in connection with various input parameters, such as a change in the signal frequency, signal loss or for individual signal formats. The XFAR is equipped with two alarm outputs for more complex applications. Each can be secured individually.

Each product version is designed for a defined type of signal and sensor. These types include analogue signals such as current, voltage, temperature (thermocouple and PT100 temperature detector), frequency and conductivity. Modules which have temperature measuring inputs (PT100, thermocouple) are also equipped with a wire-break detection mechanism.

The four-digit LED display can be universally scaled, so that values can be displayed in any engineering unit. The selected units are automatically applied for all parameters. The user friendly software makes setting up operating parameters very easy. Choose the settings you need using the display and the keypad.

The modules are completely electrically isolated to 2 kV. They can be snapped on to DIN TS 35 or TS 32 mounting rails. The pluggable screw connection is located on the front.

Typical application of Micromann R



Technical features:

- A wide variety of versions available for many types of input signals
- Two alarm channel with LED status display relay contact
- LED display in engineering units
- Complete electrical isolation
- DC power supply
- Pluggable screw-connection mechanism
- Compact metal housing

Common technical data

Display	
Type	Four-digit, red LED, 7 mm
Display range	-999 to 9999
Display value	Percent or real-value displayed
Status indicator	Trip 1 / Trip 2 / Processor status
Alarm output	
Type	Changeover contact
Number of channels	2
Switching current	1 A @ 240 V AC / 30 V DC (resistive load)
Switching threshold	All values are programmable within the display range
Hysteresis	> 1 display value
Alarm function	High alarm or low alarm
Relay controlled	Coil un-energized or energized, programmable
Reset	Automatic or manual
Dynamic hysteresis	0...4200 sec.
General information	
Supply voltage	12...50 V DC
Power input	6 W @ 24 V DC
Repeat accuracy	± 0.05 % of signal range
Humidity	0...90 % (no condensation)
Temperature coefficient	≤ 0.02 % / °C
Long-term drift	0.1 % / 10,000 h
Step response time	320 ms (10...90 %) programmable from 250 ms...32 s
Scanning rate	5 per sec.
Impulse withstand voltage	4 kV (1.2/50 µs)
Isolation voltage	2 kV between ports
Data backup	≥ 100 years
Operating temperature / storage temperature	0 °C...+60 °C / +25 °C...+70 °C
EMC standard	DIN EN 61326
Approvals	CE, cULus

Connections

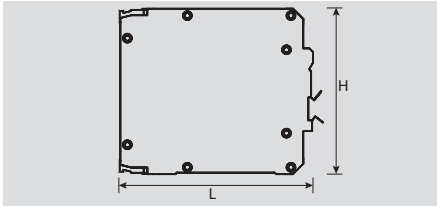
Terminal	Signal	
1	Depending on the individual module	Inputs
2		
3		
4		
5		
6		
7	Connections for changing setup	Configuration
8		
9	-	Supply voltage
10	+	
11	NO contacts	Alarm channel 1
12	Common	
13	NC contact	
14	NO contacts	Alarm channel 2
15	Common	
16	NC contact	
Housing	PE connection direct on housing	

MANN SERIES - Process alarms

Micromann R Series

Universal, galvanically-isolated signal converters with an alarm function and two setpoint adjustments.

- Two alarm channels
- External power supply
- Pluggable connection terminals
- Compact enclosure



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Technical data

Input

Type
Input signal
Input resistance
Resolution
Smallest received measuring span
Linearisation
Supply voltage

Display

Display value
Display range
Resolution

General data

Voltage supply
Power consumption
Repeat accuracy
Humidity
Temperature coefficient
Long-term drift
Step response time

Impulse withstand voltage
Insulation voltage
Data backup
Operating temperature/Storage temperature
EMC standards
Approvals

Data of Housing

Clamping range (rating- / min. / max.)	mm ²	1.5 / 0.5 / 2.5
Type of connection / Terminal rail		Screw connection / TS 35 + TS 32
Type of Housing / Weight		Anodized aluminium enclosure / 500 g
Length x width x height	mm	120 x 46 x 97

Note

PE connection direct on enclosure

Ordering data

Type	
	Relay output
	Special adjustment

Note

Type	Qty.	Order No.
UCVR	1	7940010174
UCV Variabel	1	8945090000

Additional input and output versions available on request

Accessories

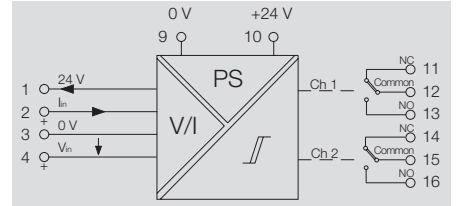
Note

UCVR

Current / voltage monitoring



- Conversion, isolation and filtering of analogue signals
- Bi-polar inputs
- Linear or quadratic input signal



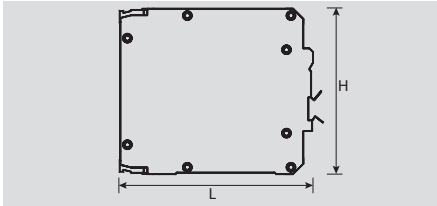
Connections

Terminal	Signal
1	24 V DC
2	Signal + Current
3	Signal -
4	Signal + voltage
5	Not used
6	

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Technical data

Input	
Type	
Input signal	
Input resistance, max.	
Display	
Display value	
Display range	
Resolution	
General data	
Cold-junction compensation error	
Voltage supply	
Power consumption	
Repeat accuracy	
Humidity	
Temperature coefficient	
Long-term drift	
Step response time	
Impulse withstand voltage	
Insulation voltage	
Data backup	
Operating temperature/Storage temperature	
EMC standards	
Approvals	

Data of Housing	
Clamping range (rating- / min. / max.)	mm²
Type of connection / Terminal rail	
Type of Housing / Weight	
Length x width x height	mm
Note	

Ordering data

Type	Relay output Special adjustment
Note	

Accessories

Note	
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UTCR

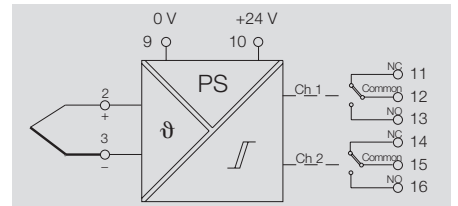
Temperature monitoring (thermal converter)



- Thermocouples type J, K, T, E, B, S, R
- Temperature display in °C / °F
- Wire-break recognition
- Cold-trap compensation

Input	
Thermocouples (Type J, K, N, T, E, B, S, R) or mV	
9 adjustable ranges	
1 kΩ	
Display	
°C / °F or mV	
Dependent on selected input type	
1 °C / °F or 0.01 mV	
General data	
≤ 0.02 % / °C ambient temperature	
12...50 V DC	
6 W @ 24 V DC	
± 0.05 % of signal range	
0...90 % (no condensation)	
≤ 0.02 % / °C	
0.1 % / 10,000 h	
320 ms (10...90 %), programmable from 250 ms...32 s	
4 kV (1.2/50 μs)	
2 kV input / output / power supply	
≥ 100 years	
0 °C...+60 °C/-25°C...+70°C	
DIN EN 61326	
CE; cULus	
Data of Housing	
1.5 / 0.5 / 2.5	
Screw connection / TS 35 + TS 32	
Anodized aluminium enclosure / 500 g	
120 x 46 x 97	
Note	
PE connection direct on enclosure	

Type	Qty.	Order No.
UTCR	1	7760000017
UTC Variabel	1	8945130000
Note	Additional input and output versions available on request	



Connections

Terminal	Signal	Signal temperature
1		Cold-junction compensation
2	Signal + mV	
3	Signal - mV	
4		
5		
6	Not used	

Thermocouples (Type J, K, N, T, E, B, S, R) or mV signals

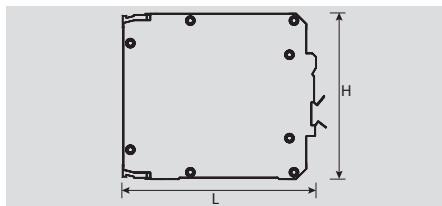
Input type	Max. display range	
	highest	lowest
J	870 °C (1598 °F)	-50 °C (-58 °F)
K	1372 °C (2502 °F)	
N	1300 °C (2372 °F)	
T	400 °C (752 °F)	
E	700 °C (1292 °F)	
B	1800 °C (3272 °F)	0 °C (32 °F)
S	1768 °C (3214 °F)	-50 °C (-58 °F)
R	1768 °C (3214 °F)	-50 °C (-58 °F)
mV	60 mV	-9,99 m

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Technical data

Input	
Type	PT100 2-/ 3-wire
Input signal	Configurable for 4 ranges
Line resistance in measuring circuit	30 Ω
Display	
Display range	Dependent on selected range
Display value	°C / °F
Resolution	1 or 0.1 °C / °F
General data	
Cable-length compensation	< 0,05 %
Voltage supply	12...50 V DC
Power consumption	6 W @ 24 V DC
Repeat accuracy	± 0.05 % of signal range
Humidity	0...90 % (no condensation)
Temperature coefficient	≤ 0.02 % / °C
Long-term drift	0.1 % / 10,000 h
Step response time	320 ms (10...90 %), programmable from 250 ms...32 s
Impulse withstand voltage	4 kV (1.2/50 μs)
Insulation voltage	2 kV input / output / power supply
Data backup	≥ 100 years
Operating temperature/Storage temperature	0 °C...+60 °C/-25°C...+70°C
EMC standards	DIN EN 61326
Approvals	CE; cULus

Data of Housing	
Clamping range (rating- / min. / max.)	mm² 1.5 / 0.5 / 2.5
Type of connection / Terminal rail	Screw connection / TS 35 + TS 32
Type of Housing / Weight	Anodized aluminium enclosure / 500 g
Length x width x height	mm 120 x 46 x 97
Note	
	PE connection direct on enclosure

Ordering data

Type	Relay output
	Special adjustment
Note	
	Additional input and output versions available on request

Accessories

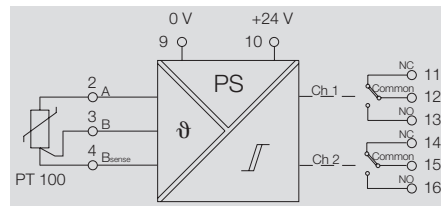
Note

URTR

Temperature monitoring (RTD)



- Processes 2- or 3-wire PT100 signals
- Temperature display in °C / °F
- Compensation for the measurement lines



Connections

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

2- or 3-wire PT100 RTD (BS1904:1984 / IEC751:1983)

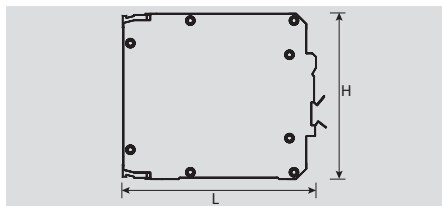
highest	Max. display range		Resolution
	lowest		
700 °C	-200 °C		1 °C
1292 °F	-328 °F		1 °F
200,0 °C	-99,9 °C		0,1 °C
400 °F	-99,9 °F		0,1 °F

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Technical data

Input

Type
Input signal

Smallest received measuring span
Supply voltage
Battery constant
cable-length compensation
Temperature compensation

Display

Display value
Display range
Resolution

General data

Voltage supply
Power consumption
Repeat accuracy
Humidity
Temperature coefficient
Long-term drift
Step response time

Common-mode rejection (CMR)
Impulse withstand voltage
Insulation voltage
Data backup
Operating temperature/Storage temperature
EMC standards
Approvals

Data of Housing

Clamping range (rating- / min. / max.) mm²
Type of connection / Terminal rail
Type of Housing / Weight
Length x width x height mm

Note

Ordering data

Type
Relay output
Special adjustment

Note

Accessories

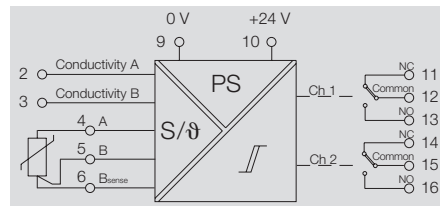
Note

CNDR

Conductivity monitoring



- Suitable for all conductivity probes
- Automatic measuring range selection
- Compensation for probe temperature
- Adjustable cell constant
- Linearized probe characteristic



Connections

Terminal	Signal
1	Not used
2	A Conductivity
3	B Conductivity
4	A Temperature
5	B Temperature
6	B-Sense Temperature

Conductivity measurement and PT100 RTD
0 to 200 µS (0.1 µS resolution)
0 to 1000 / 5000 µS (1 µS resolution)
0 to 20 mS (0.01 mS resolution) 0 to 200 °C (0.1 °C resolution)
20 % input range
≤ 6 V _{ss} @ 400 Hz
0.01...99.99 / cm
< 2 % (up to 30 Ω)
Linear or user-defined, up to five measurement points
µS, mS, µS/cm, mS/cm or °C
Dependent on selected input signal
0.1 µS / 1 µS / 0.01 mS / 0.1 °C
12...50 V DC
6 W @ 24 V DC
± 0.05 % of signal range
0...90 % (no condensation)
≤ 0.02 % / °C
0.1 % / 10,000 h
320 ms (10...90 %), programmable from 250 ms...32 s
40 dB CMRR (1.5 kV _{rms})
4 kV (1.2/50 µs)
2 kV input / output / power supply
≥ 100 years
0 °C...+60 °C/-25°C...+70°C
DIN EN 61326
CE; cULus

1.5 / 0.5 / 2.5
Screw connection / TS 35 + TS 32
Anodized aluminium enclosure / 500 g
120 x 46 x 97
PE connection direct on enclosure

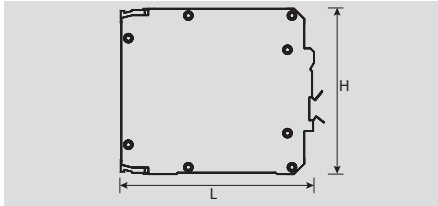
Type	Qty.	Order No.
CNDR	1	7940017921
CND Variabel	1	8944930000

Additional input and output versions available on request

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Technical data

Input	
Type	
Input signal	
Smallest received measuring span	
Sensor supply	
Blocking pulse	
Input resistance	
Display	
Display value	
Display range	
Resolution	
General data	
Voltage supply	
Power consumption	
Repeat accuracy	
Humidity	
Temperature coefficient	
Long-term drift	
Step response time	
Impulse withstand voltage	
Insulation voltage	
Data backup	
Operating temperature/Storage temperature	
EMC standards	
Approvals	

Data of Housing	
Clamping range (rating- / min. / max.)	mm ²
Type of connection / Terminal rail	
Type of Housing / Weight	
Length x width x height	mm

Note

Ordering data

Type	
Relay output	
Special adjustment	

Note

Accessories

Note

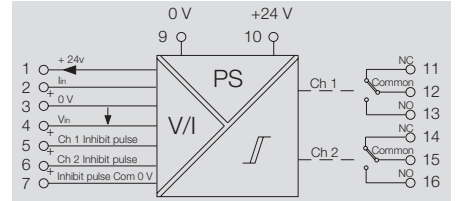
XFAR

Current / voltage monitoring



- Alarm triggered by rising or falling signal level
- Alarm when deviation occurs from desired setpoint value
- Alarm suppression for each channel
- Suppression of alarm function for undefined signal levels

Current or voltage signals
-22...+22 mA / -11...+11 V
2 mA or 1 V
24 V DC (up to 25 mA)
High: 4...40 V; Low: < 3 V
22 Ω (current input); or 1 MΩ (voltage input)
Percentage or real value display
-999...9999
0.001 of displayed value
12...50 V DC
6 W @ 24 V DC
± 0.05 % of signal range
0...90 % (no condensation)
≤ 0.02 % / °C
0.1 % / 10,000 h
320 ms (10...90 %),
programmable from 250 ms...32 s
4 kV (1.2/50 μs)
2 kV input / output / power supply
≥ 100 years
0 °C...+60 °C/-25°C...+70°C
DIN EN 61326
CE; cULus
1.5 / 0.5 / 2.5
Screw connection / TS 35 + TS 32
Anodized aluminium enclosure / 500 g
120 x 46 x 97
PE connection direct on enclosure



Connections

Terminal	Signal
1	12 V DC
2	Signal + Current
3	Signal -
4	Signal + voltage
5	Channel 1 signal of external control (inhibit pulse)
6	Channel 2 signal of external control (inhibit pulse)
7	Inhibit pulse 0 V