

Supplementary Components

Displays

SITRANS RD200

Overview



The SITRANS RD200 is a universal input, panel mount remote digital display for process instrumentation.

Benefits

- Easy setup and programming via front panel buttons or remotely using RD software
- Display readable in sunlight
- Universal input: accepts current, voltage, thermocouple and RTD signals
- Single or dual 24 V DC transmitter power supply
- Serial communication using built in protocol or optional Modbus[®] RTU
- Two optional relays for alarm indication or process control applications
- Linear or square root function supported
- Meter Copy feature to reduce setup time, cost or errors
- RD software supporting remote configuration, monitoring and logging for up to 100 displays

Application

The RD200 is a universal remote display for level, flow, pressure, temperature, weighing, and other process instruments.

Data can be remotely collected, logged and presented from as many as 100 displays on your local computer using the free downloadable RD Software.

The display accepts a single input of current, voltage, thermocouple, and RTD. This makes the RD200 an ideal fit for use with most field instruments.

The RD200 can be set up as a standard panel mount, or combined with optional enclosures to allow it to house up to 6 displays.

- Key Applications: Tank farms, pump alternation control, local or remote display of level, temperature, flow, pressure and weighing instrument values, PC monitoring and data logging with RD Software.

Technical specifications

Mode of operation	
Measuring principle	Analog to digital conversion
Measuring points	<ul style="list-style-type: none"> • 1 instrument • Remote monitoring of 100 instruments with PC and RD Software
Input	
Measuring range	
<ul style="list-style-type: none"> • Current • Voltage • Thermocouple temperature 	<ul style="list-style-type: none"> • 4 ... 20 mA, 0 ... 20 mA • 0 ... +10 V DC, 1 ... 5 V, 0 ... 5 V • Type J: -50 ... +750 °C (-58 ... +1382 °F) • Type K: -50 ... +1260 °C (-58 ... +2300 °F) • Type E: -50 ... +870 °C (-58 ... +1578 °F) • Type T: -180 ... +371 °C (-292 ... +700 °F) • Type T, 0.1° Resolution: -180.0 ... +371 °C (-199.9 ... +700 °F)
<ul style="list-style-type: none"> • RTD temperature 	<ul style="list-style-type: none"> • 100 Ω RTD: -200 ... +750 °C (-328 ... +1382 °F)
Output signal	
Output	<ul style="list-style-type: none"> • PDC output • 4 ... 20 mA (optional) • Modbus (optional)
Relays	2 SPDT Form C relays, rated 3 A @ 30 V DC or 3 A @ 250 V AC, non-inductive, auto-initializing (optional)
Communications	<ul style="list-style-type: none"> • RS-232 with PDC or Modbus RTU • RS-422/485 with PDC or Modbus RTU
Accuracy	
4 ... 20 mA optional output	± 0.1 % FS ± 0.004 mA
Process input	± 0.05 % of span ± 1 count, square root: 10 ... 100 % FS
Thermocouple temperature input	<ul style="list-style-type: none"> • Type J: ± 1 °C (± 2 °F) • Type K: ± 1 °C (± 2 °F) • Type E: ± 1 °C (± 2 °F) • Type T: ± 1 °C (± 2 °F) • Type T, 0.1° Resolution: ± 1 °C (± 1.8 °F)
RTD temperature input	<ul style="list-style-type: none"> • 100 Ω RTD: ± 1 °C (± 1 °F)
Rated operating conditions	
Ambient conditions	
Operating temperature range	0 ... +65 °C (32 ... 149 °F)
Design	
Weight	269 g (9.5 oz) (including options)
Material (enclosure)	<ul style="list-style-type: none"> • 1/8 DIN, high impact plastic, UL94V-0, color: gray • Optional plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 enclosures
Degree of protection	Type 4X, NEMA 4X, IP65 (front cover); panel gasket provided

Electrical connection	
mA output signal	2-core copper conductor, twisted, shielded, 0.82 ... 3.30 mm ² (18 ... 12 AWG), Belden® 8760 or equivalent is acceptable
Electrical connection and relay connection	Copper conductor according to local requirements, rated 3A @ 250 V AC
Power supply	
Input voltage option 1	85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max.
Input voltage option 2	12 ... 36 V DC; 12 ... 24 V AC, 6 W max.
Transmitter power supply	One or two isolated transmitter power supplies (optional)
• Single power supply:	One 24 V DC ± 10 % @ 200 mA max.
• Dual power supplies:	Two 24 V DC ± 10 % @ 200 mA and 40 mA max.
External loop power supply	35 V DC max.
Output loop resistance	<ul style="list-style-type: none"> • 24 V DC, 10 ... 700 Ω max. • 35 V DC (external), 100 ... 1200 Ω max.
Displays and controls	
Display	<ul style="list-style-type: none"> • 14 mm (0.56") high LED • Numeric range from -1999 ... +9999 • Four digits, automatic lead zero blanking • Eight intensity levels
Memory	<ul style="list-style-type: none"> • Non-volatile • Stores settings for minimum of 10 years if power is lost
Programming	<ul style="list-style-type: none"> • Primary: front panel • Secondary: Meter Copy or PC with SITRANS RD Software
Certificates and approvals	
	CE, UL, cUL
Options	
Enclosures	Plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 and 4X enclosures
Communications	Modbus RTU

®Modbus is a registered trademark of Schneider Electric.

®Belden is a registered trademark of Belden Wire and Cable Company

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Selection and Ordering data	Order No.
SITRANS RD200 A universal input, panel mount remote digital display for process instrumentation.	C) 7ML5740-0A
Input voltage 85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max. 12 ... 36 V DC; 12 ... 24 V AC, 6 W max.	▶ 1 2
Transmitter supply None Single 24 V DC transmitter supply ¹⁾ Dual 24 V DC transmitter supply ¹⁾²⁾	▶ A B C
Output None 2 relays 4 ... 20 mA output	▶ A B C
Communication Modbus disabled Modbus enabled	▶ 0 1
Approvals CE, UL, cUL	1

1) Available with input voltage option 1 only
2) Available with output option C only

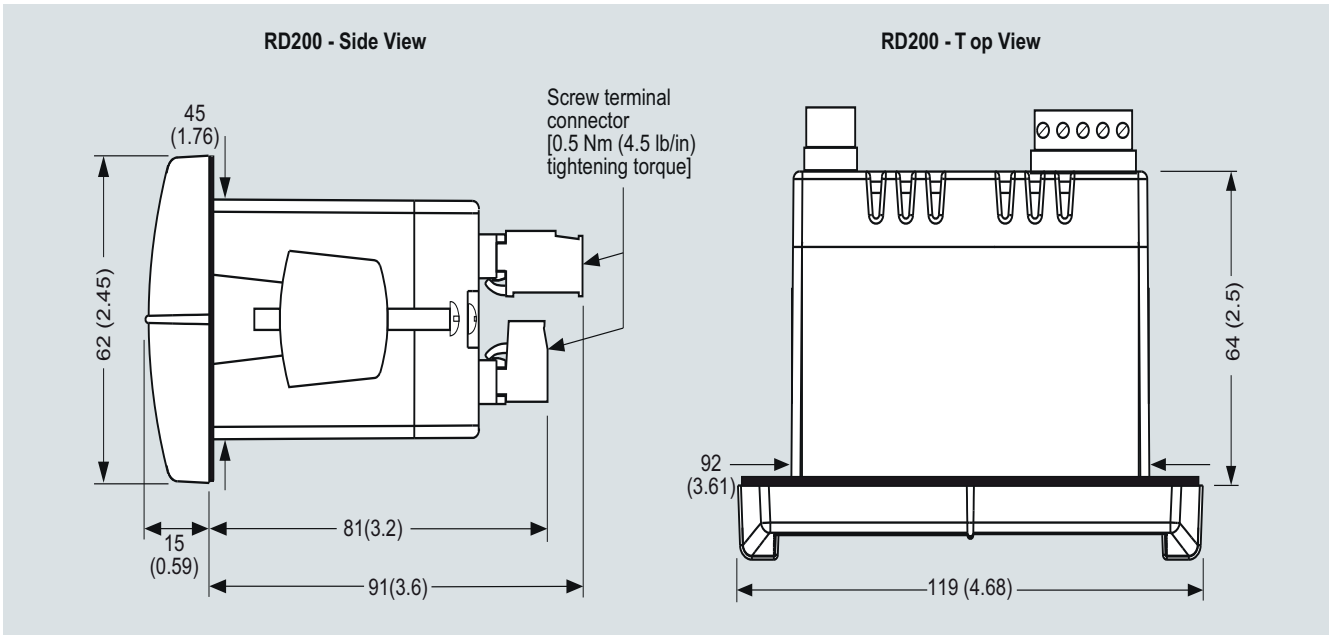
C) Subject to export regulations AL: N, ECCN: EAR99
▶ Available ex stock when configured with the following options only:
Input voltage: 1, Transmitter supply: B, Output : A, Communication: 0.

Selection and Ordering data	Order No.
Operating Instructions	
English	C) 7ML1998-5JS01
Spanish	C) 7ML1998-5JS21
German	C) 7ML1998-5JS31
Note: The Operating Instructions should be ordered as a separate line item. This device is shipped with the Siemens Milltronics manual CD containing Quick Starts and Operating Instructions.	
Other Operating Instructions	
SITRANS RD Enclosures, English	C) 7ML1998-5JX01
SITRANS RD Enclosures, German	C) 7ML1998-5JX31
SITRANS RD Serial Adapters, English	C) 7ML1998-5JV01
SITRANS RD Serial Adapters, German	C) 7ML1998-5JV31
SITRANS RD Software, English	C) 7ML1998-5JW01
SITRANS RD Software, German	C) 7ML1998-5JW31

Accessories	Order No.
SITRANS RD200 copy cable 2.1 m (7 ft)	C) 7ML1930-1BR
SITRANS RD200 RS-232 serial adapter (copy cable included)	C) 7ML1930-1BS
SITRANS RD200 RS-422/485 serial adapter (copy cable included)	C) 7ML1930-1BT
RS-232 to RS-422/485 isolated converter	C) 7ML1930-1BU
RS-232 to RS-422/485 non-isolated converter	C) 7ML1930-1BV
SITRANS RD200 RS-232 and RS-485 isolated multi-input adapter board	C) 7ML1930-1BW
USB to RS-422/485 isolated converter	C) 7ML1930-1BX
USB to RS-422/485 non-isolated converter	C) 7ML1930-1BY
USB to RS-232 converter	C) 7ML1930-1DC
RD Software CD for 1 ... 100 displays	C) 7ML1930-1CC
Modbus option enabled	C) 7ML1930-1CD
Low cost polycarbonate plastic enclosure for 1 display	C) 7ML1930-1CF
Thermoplastic enclosure	
For use with 1 display	C) 7ML1930-1CG
For use with 2 displays	C) 7ML1930-1CH
For use with 3 displays	C) 7ML1930-1CJ
For use with 4 displays	C) 7ML1930-1CK
For use with 5 displays	C) 7ML1930-1CL
For use with 6 displays	C) 7ML1930-1CM
Stainless steel enclosure (Type 304, EN 1.4301)	
For use with 1 display	C) 7ML1930-1CN
For use with 2 displays	C) 7ML1930-1CP
For use with 3 displays	C) 7ML1930-1CQ
For use with 4 displays	C) 7ML1930-1CR
For use with 5 displays	C) 7ML1930-1CS
For use with 6 displays	C) 7ML1930-1CT
Steel enclosure	
For use with 1 display	C) 7ML1930-1CU
For use with 2 displays	C) 7ML1930-1CV
For use with 3 displays	C) 7ML1930-1CW
For use with 4 displays	C) 7ML1930-1CX
For use with 5 displays	C) 7ML1930-1CY
For use with 6 displays	C) 7ML1930-1DA

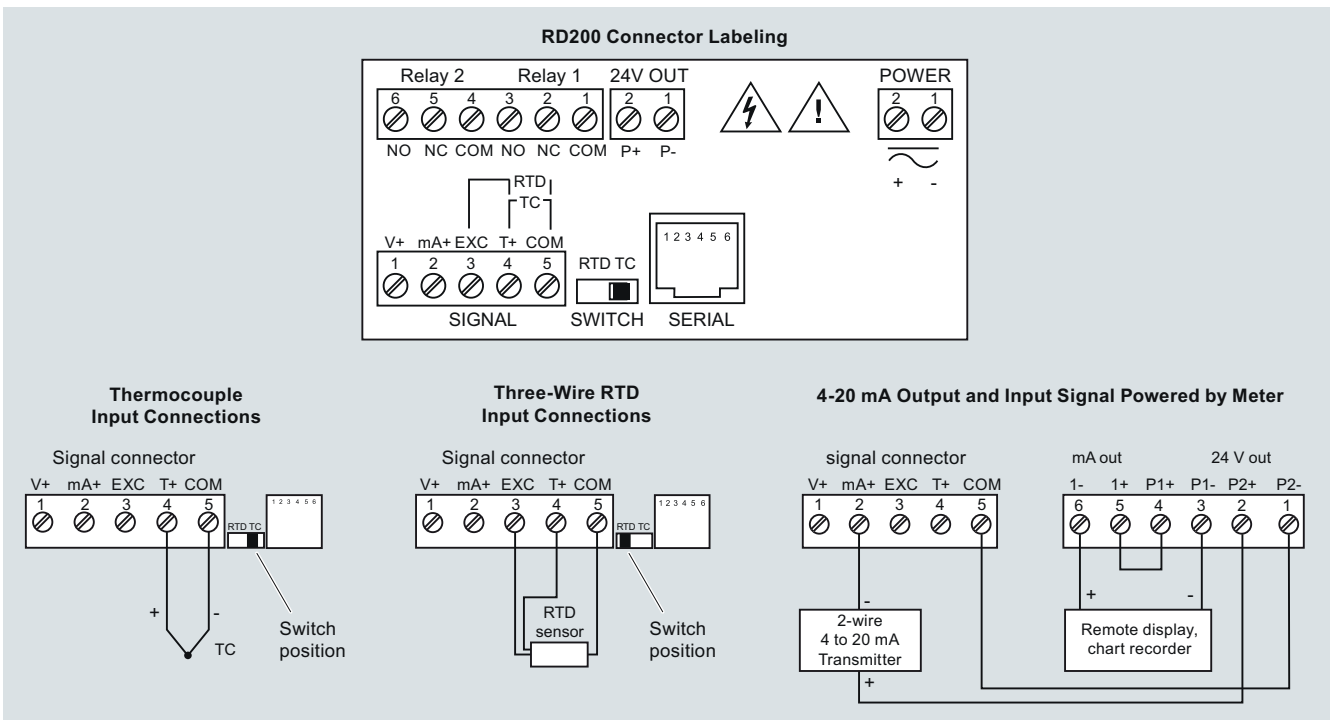
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Dimensional drawings



SITRANS RD200 dimensions in mm (inch)

Schematics



SITRANS RD200 connections