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 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
- Other features include: 4 to 20 mA Analog Output Option, Supports Pump Alternation control, and optional NEMA 4 and 4X field enclosures
- 2X option for 30.5 mm (1.2 inch) high, red LED display

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	• 1 instrument • Remote monitoring of 100 instruments with PC and RD software
Input	
Measuring range	
• Current	• 4 … 20 mA, 0 … 20 mA
• Voltage	• 0 … 10 V DC, 1 … 5 V, 0 … 5 V
• Thermocouple temperature	• Type J: -50 … +750 °C (-58 … +1 382 °F) • Type K: -50 … +1 260 °C (-58 … +2 300 °F) • Type E: -50 … +870 °C (-58 … +1 578 °F) • Type T: -180 … +371 °C (-292 … +700 °F) • Type T, 0.1 resolution: -180.0 … +371 °C (-199.9 … +700 °F)
• RTD temperature	• 100 Ω RTD: -200 … +750 °C (- 328 … + 1 382 °F)
Output signal	
Output	• PDC output • 4 … 20 mA (optional) • Modbus RTU
Relays	2 SPDT Form C relays, rated 3 A at 30 V DC or 3 A at 250 V AC, non-inductive, auto-initializing (optional)
Communications	• 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	• 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	• 100 Ω RTD: ± 1 °C (± 1 °F)
Rated operating conditions	
Ambient conditions	
Storage temperature range	-40 … +85 °C (-40 … +185 °F)
Operating temperature range	0 … 65 °C (32 … 149 °F)
Design	
Weight	269 g (9.5 oz) (including options)
Material (enclosure)	• 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 8 760 or equivalent is acceptable
• Electrical connection and relay connection	Copper conductor according to local requirements, rated 3 A at 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 % at 200 mA max.
• Dual power supplies	Two 24 V DC ± 10 % at 200 mA and 40 mA max.
External loop power supply	35 V DC max.
Output loop resistance	• 24 V DC, 10 … 700 Ω max. • 35 V DC (external), 100 … 1 200 Ω max.
Displays and controls	
• Display	• 14 mm (0.56 inch) high LED • Numeric range from -1 999 … +9 999 • four digits, automatic lead zero blanking • eight intensity levels • 2X option for 30.5 mm (1.2 inch) high, red LED
• Memory	• Non-volatile • Stores settings for minimum of 10 years if power is lost
• Programming	• Primary: front panel • Secondary: meter copy or PC with SITRANS RD software
Certificates and approvals	CE, UL, $_C$UL
Options	
• Enclosures	Plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 and 4X enclosures
• Mounting	• 2 inch (5.08 cm) pipe mounting kit (zinc plated seal) • 2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301)

SITRANS RD200

Selection and Ordering data		Order No.
SITRANS RD200		**7ML5740-**
A universal input, panel mount remote digital display for process instrumentation.		**A**
Input voltage		
85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max.	►	**1**
12 ... 36 V DC; 12 ... 24 V AC, 6 W max.		**2**
Transmitter supply		
None		**A**
Single 24 V DC transmitter supply[1]	►	**B**
Dual 24 V DC transmitter supply[1][2]		**C**
Output		
None	►	**A**
2 relays		**B**
4 ... 20 mA output		**C**
Communication		
Modbus enabled	►	**0**
Approvals		
CE, UL, cUL		**1**
Display Size		
Standard	►	**0**
2X option for 30.5 mm (1.2 inch) high, red LED		**1**

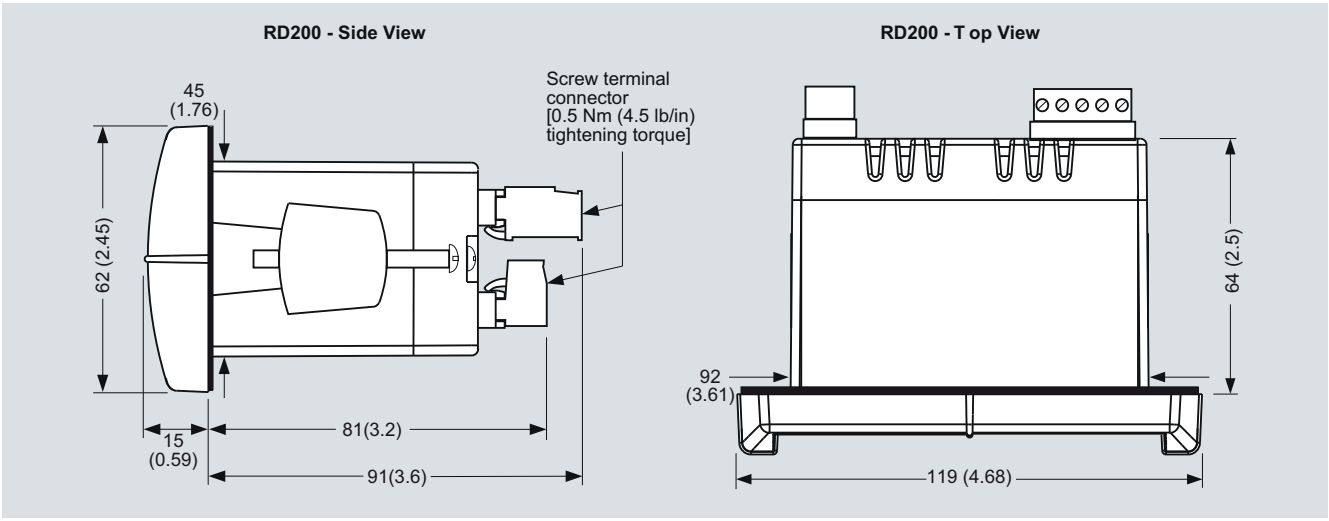
1) Available with input voltage option 1 only
2) Available with output option C only

► The following configurations available ex stock: 7ML5740-1AA01-0A, 7ML5740-1BB01-0A, 7ML5740-1BC01-0A, 7ML5740-1AA11-1A, 7ML5740-1BB11-1A

Selection and Ordering data	Order No.
Operating Instructions	
English	**7ML1998-5JS01**
Spanish	**7ML1998-5JS21**
German 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.	**7ML1998-5JS31**
Other Operating Instructions	
SITRANS RD Enclosures, English	**7ML1998-5JX01**
SITRANS RD Enclosures, German	**7ML1998-5JX31**
SITRANS RD Serial Adapters, English	**7ML1998-5JV01**
SITRANS RD Serial Adapters, German	**7ML1998-5JV31**
SITRANS RD Software, English	**7ML1998-5JW01**
SITRANS RD Software, German	**7ML1998-5JW31**

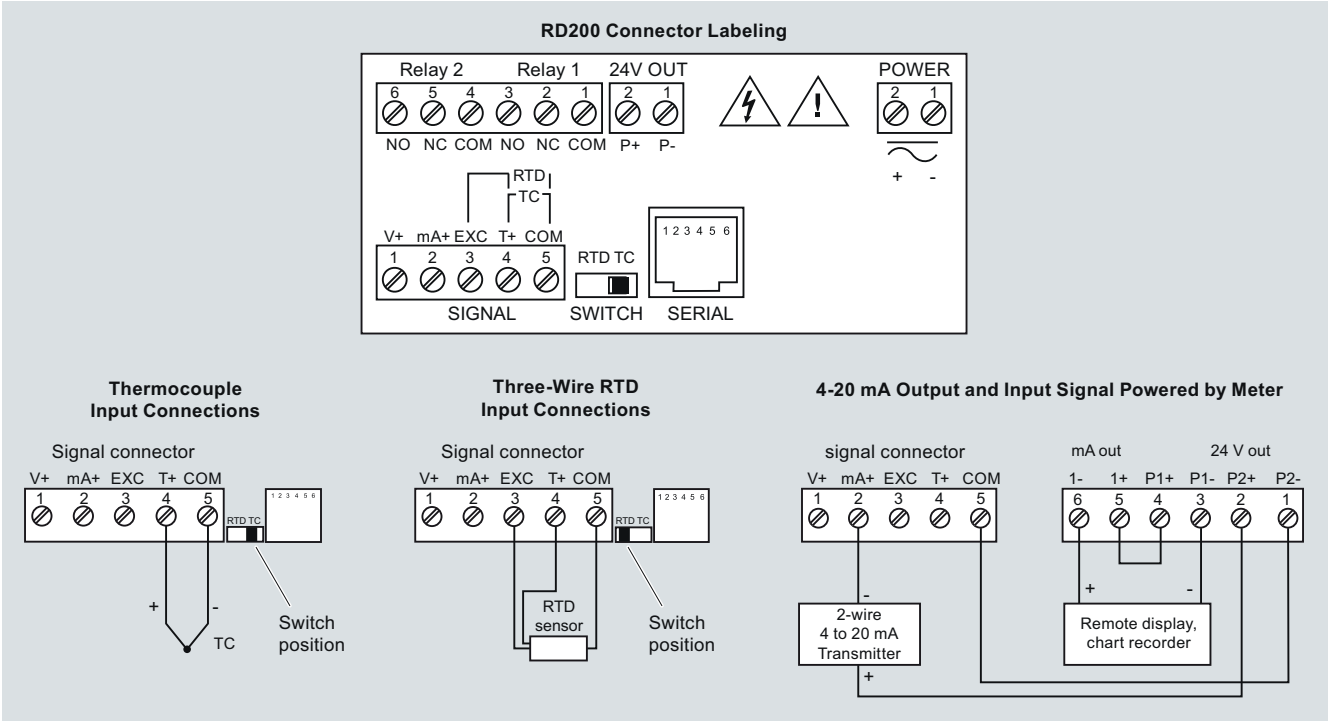
Accessories	
SITRANS RD200 copy cable 2.1 m (7 ft)	**7ML1930-1BR**
SITRANS RD200 RS 232 serial adapter (copy cable included)	**7ML1930-1BS**
SITRANS RD200 RS 422/485 serial adapter (copy cable included)	**7ML1930-1BT**
RS 232 to RS 422/485 isolated converter	**7ML1930-1BU**
RS 232 to RS 422/485 non-isolated converter	**7ML1930-1BV**
SITRANS RD200 RS 232 and RS 485 isolated multi-input adapter board	**7ML1930-1BW**
USB to RS 422/485 isolated converter	**7ML1930-1BX**
USB to RS 422/485 non-isolated converter	**7ML1930-1BY**
USB to RS 232 converter	**7ML1930-1DC**
RD Software CD for 1 ... 100 displays	**7ML1930-1CC**
Low cost polycarbonate plastic enclosure for 1 display	**7ML1930-1CF**
2 inch (5.08 cm) pipe mounting kit (zinc plated seal) only available with 7ML1930-1CF	**7ML1930-1BP**
2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301) only available with 7ML1930-1CF	**7ML1930-1BQ**
Thermoplastic enclosure	
For use with 1 display	**7ML1930-1CG**
For use with 2 displays	**7ML1930-1CH**
For use with 3 displays	**7ML1930-1CJ**
For use with 4 displays	**7ML1930-1CK**
For use with 5 displays	**7ML1930-1CL**
For use with 6 displays	**7ML1930-1CM**
Stainless steel enclosure (Type 304, EN 1.4301)	
For use with 1 display	**7ML1930-1CN**
For use with 2 displays	**7ML1930-1CP**
For use with 3 displays	**7ML1930-1CQ**
For use with 4 displays	**7ML1930-1CR**
For use with 5 displays	**7ML1930-1CS**
For use with 6 displays	**7ML1930-1CT**
Steel enclosure	
For use with 1 display	**7ML1930-1CU**
For use with 2 displays	**7ML1930-1CV**
For use with 3 displays	**7ML1930-1CW**
For use with 4 displays	**7ML1930-1CX**
For use with 5 displays	**7ML1930-1CY**
For use with 6 displays	**7ML1930-1DA**

Dimensional drawings



SITRANS RD200, dimensions in mm (inch)

Schematics



SITRANS RD200 connections