

Supplementary Components



8/2

Product overview

8/4

Isolating power supplies and Output isolators

8/7

SITRANS I100

SITRANS I200

8/10

Displays

8/12

SITRANS RD100

SITRANS RD200

8/16

Remote Data Manager

SITRANS RD500

8/21

WirelessHART products

8/27

SITRANS AW200 - WirelessHART adapter

IE/WSN-PA LINK





You can download all instructions, catalogs and certificates for Supplementary Components free of charge at the following Internet address:



www.siemens.com/processinstrumentation

Supplementary Components

Product overview

Overview

| | Area of application | Description | Catalog page | Programming Software |
|---|---|--|--------------|----------------------|
| Isolating power supplies and Output isolators | | | | |
|  | Isolating power supply for supplying 2- and 3-wire transmitters and for connecting mA sources in the hazardous area | SITRANS I100 Isolating power supply with HART for rail mounting, with intrinsically-safe input. | 8/4 | |
|  | Output isolator for controlling valve positioners, i/p converters or indicators in the hazardous area | SITRANS I200 Output isolator with HART for rail mounting, with intrinsically-safe output | 8/7 | |
| Displays | | | | |
|  | 2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation and for hazardous locations | SITRANS RD100 <ul style="list-style-type: none"> • Versatile loop-powered meter that displays process variables in level, flow, pressure, temperature and weighing applications • FM and CSA approved device that can be installed in range of environments, including hazardous areas • Large, easy-to-read display • Easy to install and set up using quick two-step process | 8/10 | - |
|  | Universal input, panel mount remote digital display for process instrumentation. Supports RTD, TC, current and voltage inputs, and supporting software allows for remote configuration and data logging | SITRANS RD200 <ul style="list-style-type: none"> • Universal remote display that accepts various inputs, making it an ideal fit for use with most field instruments • Standard panel mount display with optional enclosures • Two optional relays for alarm indication or process control applications • Meter Copy feature to reduce setup time, cost and errors • RD Software supporting remote configuration, monitoring and logging for up to 100 displays | 8/12 | - |
| Remote Data Manager | | | | |
|  | Remote data manager providing integrated web access, alarm event handling, and data capture for instrumentation | SITRANS RD500 <ul style="list-style-type: none"> • Supports up to 128 devices with the flexible I/O modules and up to 247 Modbus serial devices, including field instruments • Out-of-the-box operation, no software required, works with standard web browser • Support Ethernet, GSM, GPRS and PSTN communication • Data and alarming through FTP, Email, SMS; HTML and OPC • Up to 2 GB of data logging memory | 8/16 | - |

| | Area of application | Description | Catalog page | Programming Software |
|---|---|--|--------------|----------------------|
| WirelessHART products | | | | |
|  | WirelessHART adapter to enable standard 4 ... 20 mA or HART devices to wireless communication | SITRANS AW200 - WirelessHART adapter <ul style="list-style-type: none"> • Makes isolated information in HART field instruments airborne • Permits predictive instead of preventive maintenance strategies • Enables 4 ... 20mA or HART devices to wireless communication • Up to 4 HART devices can be connected • Power up one connected field instrument | 8/21 | |
|  | Gateway for the connection of WirelessHART field devices (HART V7.1) to Industrial Ethernet. | IE/WSN-PA LINK <ul style="list-style-type: none"> • Connection of up to 100 WirelessHART devices • Approved for operation in hazardous areas in Zone 2 • Open TCP/IP communication and Modbus TCP via the Ethernet interface • Can be used with HART-OPC servers of the HART Communication Foundation | 8/27 | |

Supplementary Components

Isolating power supplies and Output isolators

SITRANS I100

Overview



Analog input 0/4 to 20 mA

The isolating power supplies are used for the intrinsically safe operation of 2- and 3-wire transmitters and for connecting to intrinsically safe mA sources.

The 2- and 3-wire transmitters are supplied with auxiliary power from the transmitter supply unit.

For 2-wire transmitters the isolators transfer the HART communication signal bidirectionally.

Benefits

- Active output 0/4 to 20 mA
- Suitable for 2-, 3-wire transmitters, 2-wire HART transmitters and mA sources
- Intrinsically safe input [Ex ia] IIC
- Galvanic isolation between input, output and auxiliary power
- Open-circuit and short-circuit monitoring and messaging for input and output (can be switched off)
- Installation possible in Zone 2 and Div. 2
- Can be used up to SIL 2 (IEC 61508)

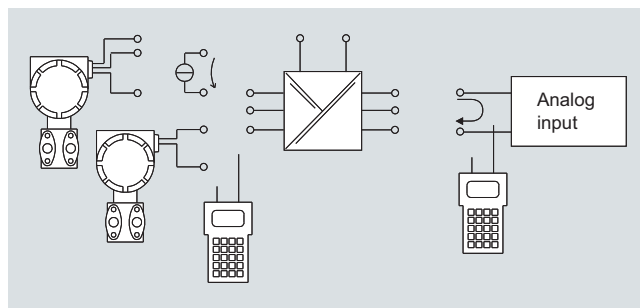
| | Zones | | | | | |
|-----------------|-------|---|---|----|----|----|
| | 0 | 1 | 2 | 20 | 21 | 22 |
| Ex i interfaces | X | X | X | X | X | X |
| Installation in | | | X | | | X |

Design

The HART isolating power supply is comprised of a compact plastic enclosure (IP30) and is equipped with push-in screw terminals.

On the front are a green LED for indicating the power supply status and a red LED for signaling errors.

The auxiliary power supply can be connected individually using push-in screw terminals or jointly for up to 40 units using pac-Bus.



SITRANS I100 isolating power supply, function block diagram

Technical specifications

SITRANS I100 Isolating Power Supplies with HART

Ex i input

| | |
|---|---|
| Input signal | 0/4 ... 20 mA with HART |
| Functional range | 0 ... 24 mA |
| Max. input current for mA sources | 50 mA |
| Transmitter supply voltage | ≥ 16 V at 20 mA (for 2-, 3-wire) |
| Supply voltage residual ripple | ≤ 25 mV _{eff} |
| No-load voltage | ≤ 26 V |
| Short-circuit current | ≤ 35 mA |
| Input resistance (AC impedance HART) | ≈ 500 Ω |
| Input resistance for mA sources | 30 Ω |
| Communication signal (on 2-wire transmitters) | Bidirectional HART transmission, 0.5 ... 30 kHz |

Output

| | |
|--------------------------------|---|
| Output signal | 0/4 ... 20 mA with HART |
| Load resistance R _L | 0 ... 600 W (terminal 1+/2-) 0 ... 379 W (terminal 3+/2-) (with internal 221 W resistance for HART) |
| Residual ripple | ≤ 40 μA _{eff} |
| No-load voltage | ≤ 15,5 V |
| Communication signal | Bidirectional HART transmission, 0,5 kHz ... 30 kHz |
| Response time (10 % ... 90 %) | ≤ 25 ms |
| Transfer behavior | 1:1 |
| Input/Output | (0 ... 20 mA --> 0 ... 20 mA, 4 ... 20 mA --> 4 ... 20 mA) |

Measuring accuracy

| | |
|--|--------------|
| Accuracy, typical data expressed as % of calibrated span at U _N , 23 °C | |
| Linearity error | ≤ 0,1 % |
| Offset error | ≤ 0,1 % |
| Temperature influence | ≤ 0,1 %/10 K |
| Power supply effect within voltage range | ≤ 0,01 % |
| Load resistance effect | ≤ 0,02 % |

Supplementary Components

Isolating power supplies and Output isolators

SITRANS I100

| | | | |
|--|---|--|---|
| Rated conditions | | Error detection Ex i input | |
| Degree of protection of enclosure | IP30 | • Open circuit | < 2 mA |
| Degree of protection of terminals | IP20 | • Short-circuit | > 22 mA |
| Ambient conditions | | • Output behavior | = Input signal |
| • Ambient temperature | -20 ... +60 °C/+70 °C (-4 ... +140 °F/+158 °F) (see Operating instructions) | • Output current at $I_{in} = 0$ | $I_{out} = 0$ mA |
| • Storage temperature | -40 ... +80 °C (-40 ... +176 °F) | Error detection output | |
| • Relative humidity (no condensation) | ≤ 95 % | • Open circuit | < 2 mA |
| Electromagnetic compatibility | Tested under the following standards and regulations: EN 61326-1 Use in the industrial environment | Error messaging Ex i input/output | |
| Mechanical specifications | | • Settings (LF switch) | Activated/deactivated |
| Screw terminals | | • Error indication | LED red "LF" |
| • One-wire connexion | | Error messaging and power supply failure | <ul style="list-style-type: none"> • Contact (30 V/100 mA), closed to ground in case of error • pac-Bus, floating contact (30 V/100 mA) |
| - Rigid | 0,2 ... 2,5 mm ² (0.00031 ... 0.0039 in ²) | Certificates and approvals | |
| - Flexible | 0,2 ... 2,5 mm ² (0.00031 ... 0.0039 in ²) | Explosion protection ATEX | |
| - Flexible with end ferrules (without/with plastic ferrule) | 0,25 ... 2,5 mm ² (0.00039 ... 0.0039 in ²) | • EC type-examination certificate | DMT 03 ATEX E 010 X |
| • Two-wire connection | | • Degree of protection | II 3 (1) G Ex nA nC [ia] IIC T4 II (1) D [Ex iaD] |
| - Rigid | 0,2 ... 1 mm ² (0.00031 ... 0.00155 in ²) | Installation | In Zone 2, Div. 2 and in the safe area |
| - Flexible | 0,2 ... 1,5 mm ² (0.00031 ... 0.0023 in ²) | Other approvals | USA (FM) Kanada (CSA) Shipping (DNV) |
| - Flexible with end ferrules | 0,25 ... 1 mm ² (0.00039 ... 0.00155 in ²) | Safety specifications (CENELEC) | |
| Weight | approx. 160 g (0.35 lb) | • Max. voltage U_o | 27 V |
| Type of installation | On DIN rail according to EN 50022 (NS35/15; NS35/7.5) | • Max. current I_o | 88 mA |
| Mounting position | Vertical or horizontal | • Max. power P_o | 576 mW |
| Enclosure material | PA 6.6 | • Max. connectable capacitance C_o for IIC/IIB | 90 nF/705 nF |
| Fire protecting class (UL-94) | V0 | • Max. connectable inductance L_o for IIC/IIB | 2,3 mH/14 mH |
| Auxiliary power | | • Internal capacitance C_i and inductance L_i | Negligible |
| Rated voltage U_N | 24 V DC | • Insulation voltage U_m | 253 V |
| Voltage range | 18 ... 31,2 V | • When connecting mA sources: | |
| Residual ripple within voltage range | ≤ 3,6 V_{SS} | - Max. output voltage U_o | 4,1 V |
| Rated current (U_N , 20 mA) | 70 mA | - Max. connectable voltage U_i | 30 V |
| Power consumption (U_N , 20 mA) | 1,7 W | - Max. connectable current I_i | 100 mA |
| Power loss (at U_N , $R_L = 250 \Omega$) | 1,3 W | - Internal capacitance C_i and inductance L_i | Negligible |
| Operation indicator | Green "PWR" LED | • For more information and value combinations | See Certification |
| Reverse polarity protection | Yes | | |
| Undervoltage monitoring | Yes (no faulty module/output states) | | |
| Galvanic isolation | | | |
| • Test voltage according to EN 60079-11 | | | |
| - Ex i input to output | 1,5 kV AC | | |
| - Ex i input to auxiliary power | 1,5 kV AC | | |
| - Ex i input to Error contact | 1,5 kV AC | | |
| • Test voltage according to EN 50178 | | | |
| - Output to auxiliary power | 350 V AC | | |
| - Error contact to auxiliary power and output | 350 V AC | | |

Supplementary Components

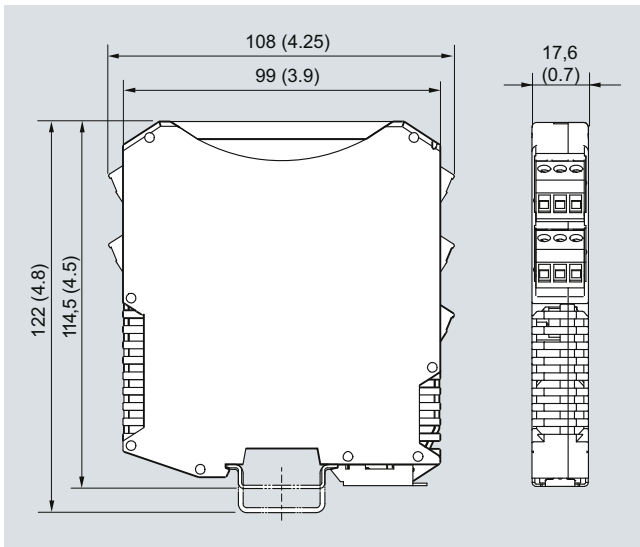
Isolating power supplies and Output isolators

SITRANS I100

Selection and Ordering data

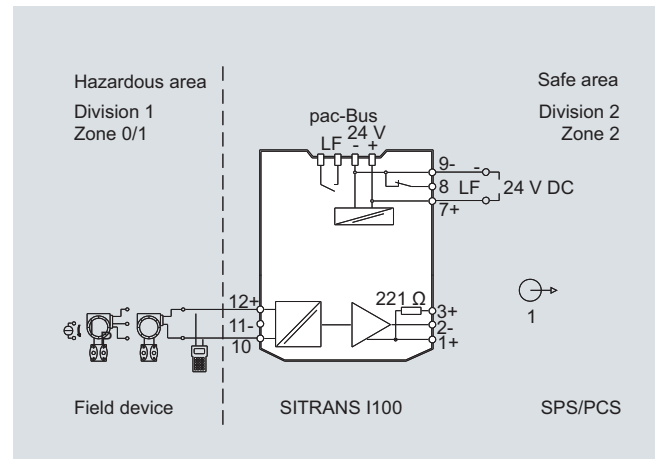
| | Order No. |
|---|----------------------|
| SITRANS I100 Isolating Power Supply with HART For rail mounting, for supplying 2-/3-wire transmitters and for mA sources, output 0/4 ... 20 mA, with intrinsically safe input | 7NG4124-0AA00 |
| Accessories | |
| pac-Bus basic set With 5 single elements and 1 terminal set (beginning and end) | 7NG4998-1AA |
| pac-Bus extension set With 5 single elements | 7NG4998-1AB |
| ▶ Available ex stock. | |

Dimensional drawings

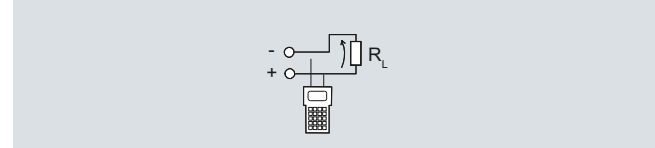


SITRANS I100 isolating power supply with HART, dimensions in mm (inch)

Schematics



SITRANS I100 isolating power supply with HART, connection diagram



SITRANS I100 isolating power supply with HART, output configuration

Supplementary Components

Isolating power supplies and Output isolators

SITRANS I200

Overview



Analog output 0/4 to 20 mA for HART

The output isolators are used for the intrinsically safe operation of valve positioners, i/p converters or indicators.

Operation of intrinsically safe HART valve positioners (e.g. SIPART PS2 and SITRANS VP300) is also possible. The units transfer a superimposed HART communication signal bidirectionally.

Benefits

- For HART output signals 0/4 to 20 mA
- Intrinsically safe output [Ex ia] IIC
- Galvanic isolation between input, output and auxiliary power
- Open-circuit and short-circuit monitoring and messaging (can be switched off)
- Installation possible in Zone 2 and Div. 2
- Can be used up to SIL 2 (IEC 61508)

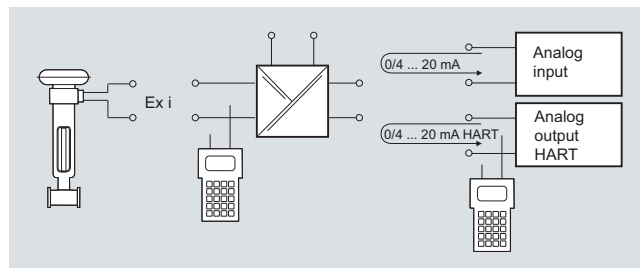
| | Zonen | | | | | |
|-----------------|-------|---|---|----|----|----|
| | 0 | 1 | 2 | 20 | 21 | 22 |
| Ex i interface | X | X | X | X | X | X |
| Installation in | | | X | | | X |

Design

The HART output isolator is comprised of a compact plastic housing (IP30) and is equipped with push-in screw terminals.

On the front are a green LED for indicating the power supply status and a red LED for signaling errors.

The auxiliary power supply can be connected individually using push-in screw terminals or jointly for up to 40 units using pac-Bus.



SITRANS I200 output isolator, function block diagram

Technical specifications

SITRANS I200 output isolator with HART

Input

| | |
|---|---|
| Input signal | 0/4 ... 20 mA with HART |
| Functional range | 0 ... 24 mA |
| Max. input current | 50 mA |
| Input resistance (changeable switch LI) | 225 Ω/550 Ω |
| Communication signal | Bidirectional HART transmission, 0.5 ... 30 kHz |

Ex i output

| | |
|---|--|
| Output signal | 0/4 ... 20 mA with HART |
| Connectable load resistance | 0 ... 800 Ω |
| Min. load resistance for short-circuit monitoring | 150 Ω |
| Residual ripple | ≤ 50 mV |
| No-load voltage | ≤ 25,6 V |
| Response time (10 % ... 90 %) | ≤ 25 ms |
| Transfer behavior Input/Output | 1:1 (0 ... 20 mA --> 0 ... 20 mA, 4 ... 20 mA --> 4 ... 20 mA) |

Measuring accuracy

| | |
|---|--------------|
| Accuracy, typical data expressed as % of calibrated span at U_N , 23 °C | |
| Linearity error | ≤ 0,1 % |
| Offset error | ≤ 0,1 % |
| Temperature influence | ≤ 0,1 %/10 K |
| Power supply effect within voltage range | ≤ 0,01 % |
| Load resistance effect | ≤ 0,02 % |

Rated conditions

| | |
|---------------------------------------|---|
| Degree of protection of enclosure | IP30 |
| Degree of protection of terminals | IP20 |
| Ambient conditions | |
| • Ambient temperature | -20 ... +70 °C (-4 ... +158 °F) (see Operating instructions) |
| • Storage temperature | -40 ... +80 °C (-40 ... +176 °F) |
| • Relative humidity (no condensation) | ≤ 95 % |
| Electromagnetic compatibility | Tested under the following standards and regulations: EN 61326-1 Use in the industrial environment |

Supplementary Components

Isolating power supplies and Output isolators

SITRANS I200

Mechanical specification

Screw terminals

- One-wire connection

| | |
|--|---|
| - Rigid | 0,2 ... 2,5 mm ² (0.00031 ... 0.0039 in ²) |
| - Flexible | 0,2 ... 2,5 mm ² (0.00031 ... 0.0039 in ²) |
| - Flexible with end ferrules (without/with plastic ferrule) | 0,25 ... 2,5 mm ² (0.00039 ... 0.0039 in ²) |

- Two-wire connection

| | |
|------------------------------|--|
| - Rigid | 0,2 ... 1 mm ² (0.00031 ... 0.00155 in ²) |
| - Flexible | 0,2 ... 1,5 mm ² (0.00031 ... 0.0023 in ²) |
| - Flexible with end ferrules | 0,25 ... 1 mm ² (0.00039 ... 0.00155 in ²) |

Weight

Approx. 160 g (0.35 lb)

Type of installation

On DIN rail according to EN 50022 (NS35/15; NS35/7.5)

Mounting position

Vertical or horizontal

Enclosure material

PA 6.6

Fire protecting class (UL-94)

V0

Auxiliary power

Rated voltage U_N

24 V DC

Voltage range

18 ... 31,2 V

Residual ripple within voltage range

 $\leq 3,6 V_{SS}$ Rated current (U_N , 20 mA)

80 mA

Power consumption (U_N , 20 mA)

1,3 W

Power loss (at U_N , $R_L = 500 \Omega$)

1,1 W

Operation indicator

Green "PWR" LED

Reverse polarity protection

Yes

Undervoltage monitoring

Yes (no faulty module/output states)

Galvanic isolation

- Test voltage according to EN 60079-11

| | |
|----------------------------------|-----------|
| - Ex i output to input | 1,5 kV AC |
| - Ex i output to auxiliary power | 1,5 kV AC |
| - Error contact to Ex i output | 1,5 kV AC |

- Test voltage according to EN 50178

| | |
|--|----------|
| - Input to auxiliary power | 350 V AC |
| - Error contact to auxiliary power and input | 350 V AC |

Error detection Ex i output

| | |
|---|---|
| • Open circuit | > 10 k Ω |
| • Short-circuit | < 15 Ω |
| • Input behavior | > 6 k Ω |
| • Open-circuit detection only for input current | $\geq 3,6$ mA |
| • Settings (LF switch) | Activated/deactivated |
| • Error indication | LED red "LF" |
| • Error messaging and power supply failure | <ul style="list-style-type: none"> Contact (30 V/100 mA), closed to ground in case of error pac-Bus, floating contact (30 V/100 mA) |

Certificates and approvals

Explosion protection ATEX

- EC type-examination certificate

DMT 03 ATEX E 012 X

- Degree of protection

II 3 (1) G Ex nA nC [ia] IIC T4
II (1) D [Ex iaD]

Installation

In Zone 2, Div. 2 and in the safe area

Other approvals

USA (FM)
Canada (CSA)
Shipping (DNV)

Safety specifications (CENELEC)

| | |
|--|---------------|
| • Max. voltage U_o | 25,6 V |
| • Max. current I_o | 96 mA |
| • Max. power P_o | 605 mW |
| • Max. connectable capacitance C_o for IIC/IIB | 103 nF/800 nF |
| • Max. connectable inductance L_o for IIC/IIB | 1,9 mH/11 mH |
| • Internal capacitance C_i and inductance L_i | Negligible |
| • Insulation voltage U_m | 253 V |
| • For more information and value combinations see Certification. | |

Selection and Ordering data

Order No.

SITRANS I200 output isolator with HART ▶ **7NG4131-0AA00**

For rail mounting, input 0/4 ... 20 mA, output 0/4 ... 20 mA, intrinsically safe

Accessories

pac-Bus basic set ▶ **7NG4998-1AA**

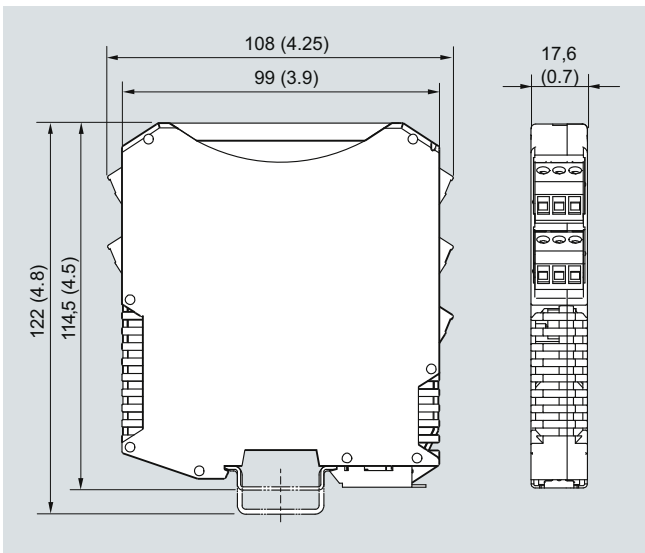
With 5 single elements and 1 terminal set (beginning and end)

pac-Bus extension set ▶ **7NG4998-1AB**

With 5 single elements

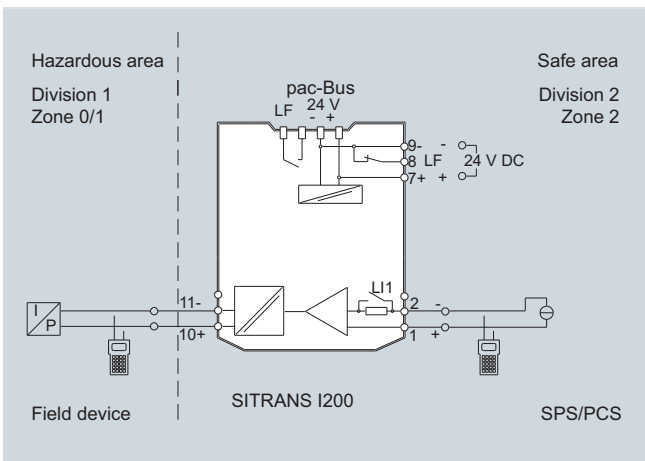
▶ Available ex stock.

Dimensional drawings



SITRANS I200 output isolator with HART, dimensions in mm (inch)

Schematics



SITRANS I200 output isolator with HART, connection diagram

Supplementary Components

Displays

SITRANS RD100

Overview



The SITRANS RD100 is a 2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation.

Benefits

- Easy setup
- Approved for hazardous locations
- NEMA 4X, IP67 impact-resistant enclosure
- Simple two-step calibration
- Two modes of input allow for easy servicing, with no interruption of loop required

Application

The RD100 is very versatile. It can be installed indoors or outdoors, in hot or cold environments, and in safe or hazardous areas.

It has been approved by FM and CSA as Intrinsically Safe and non-incendive, and operates from -40 to +85 °C (-40 to +185 °F), adding only 1 V to the loop.

The RD100 has a large 1" (2.54 cm) high display making it easy to read.

Calibration consists of a quick two-step process involving the adjustment of only two non-interacting potentiometers.

- Key Applications: Remotely displays process variables in level, flow, pressure, temperature and weighing applications, in a 4 to 20 mA loop.

Technical specifications

| | |
|-----------------------------------|---|
| Mode of operation | |
| Measuring principle | Analog to digital conversion |
| Measuring range | 4 ... 20 mA |
| Measuring points | 1 instrument only |
| Accuracy | |
| | ±0.1 % of span ±1 count |
| Rated operating conditions | |
| Ambient conditions | |
| • Operating temperature range | -40 ... +85 °C (-40 ... +185 °F) |
| Design | |
| Weight | 340 g (12 oz) |
| Material (enclosure) | Impact-resistant glass filled polycarbonate body and clear polycarbonate cover |
| Degree of protection | NEMA 4X, IP67 |
| Power supply | |
| External loop power supply | 30 V DC max. |
| Display | |
| | <ul style="list-style-type: none"> • 1.0" (2.54 cm) high LCD • Numeric range from -1000 ... +1999 |
| Certificates and approvals | |
| Hazardous | |
| • Intrinsically Safe | <ul style="list-style-type: none"> • CSA/FM Class I, II, III, Div. 1, Groups A, B, C, D, E, F, G T4 • CSA/FM Class I, Zone 0, Group IIC |
| • Non-incendive | <ul style="list-style-type: none"> • CSA/FM Class I, Div. 2, Groups A, B, C, D • SA/FM Class II and III, Div. 2, Groups F and G |
| Options | |
| Mounting | <ul style="list-style-type: none"> • 2" (5.08 cm) pipe mounting kit (zinc plated or stainless steel) • Panel mounting kit |

Selection and Ordering data

| | Order No. |
|---|---------------------|
| SITRANS RD100 | C) 7ML5741 - |
| A 2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation. | AA00 - 0 |
| Conduit hole location (½") | |
| None | ▶ 1 |
| Bottom | 2 |
| Rear | 3 |
| Top | 4 |

C) Subject to export regulations AL: N, ECCN: EAR99

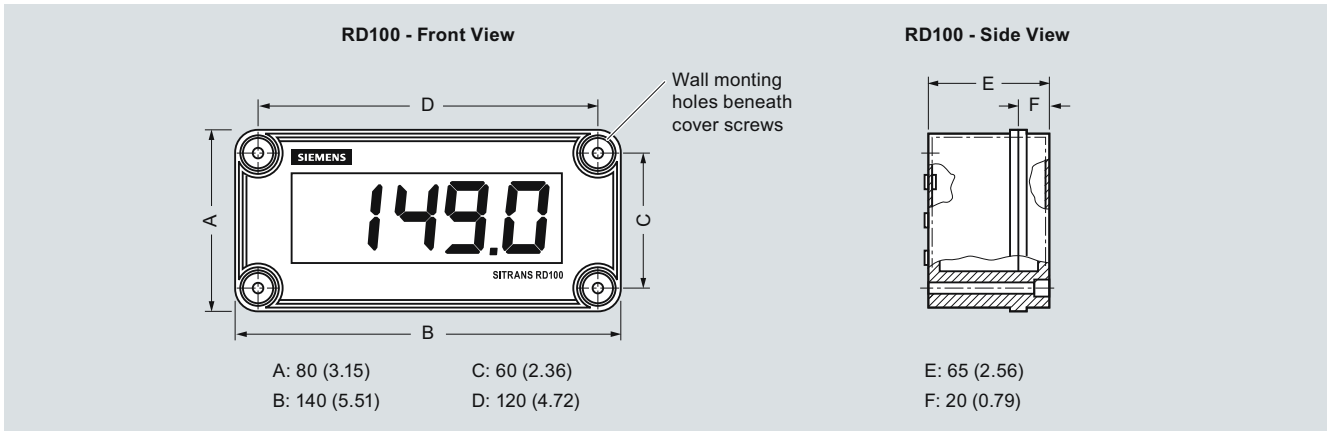
▶ Available ex stock.

Selection and Ordering data

| | Order No. |
|---|-------------------------|
| Operating Instructions | |
| English | C) 7ML1998-5JU01 |
| French | C) 7ML1998-5JU11 |
| German | C) 7ML1998-5JU31 |
| 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. | |
| Accessories | |
| Panel mount kit | C) 7ML1930-1BN |
| 2" (5.08 cm) pipe mounting kit (zinc plated seal) | C) 7ML1930-1BP |
| 2" (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301) | C) 7ML1930-1BQ |

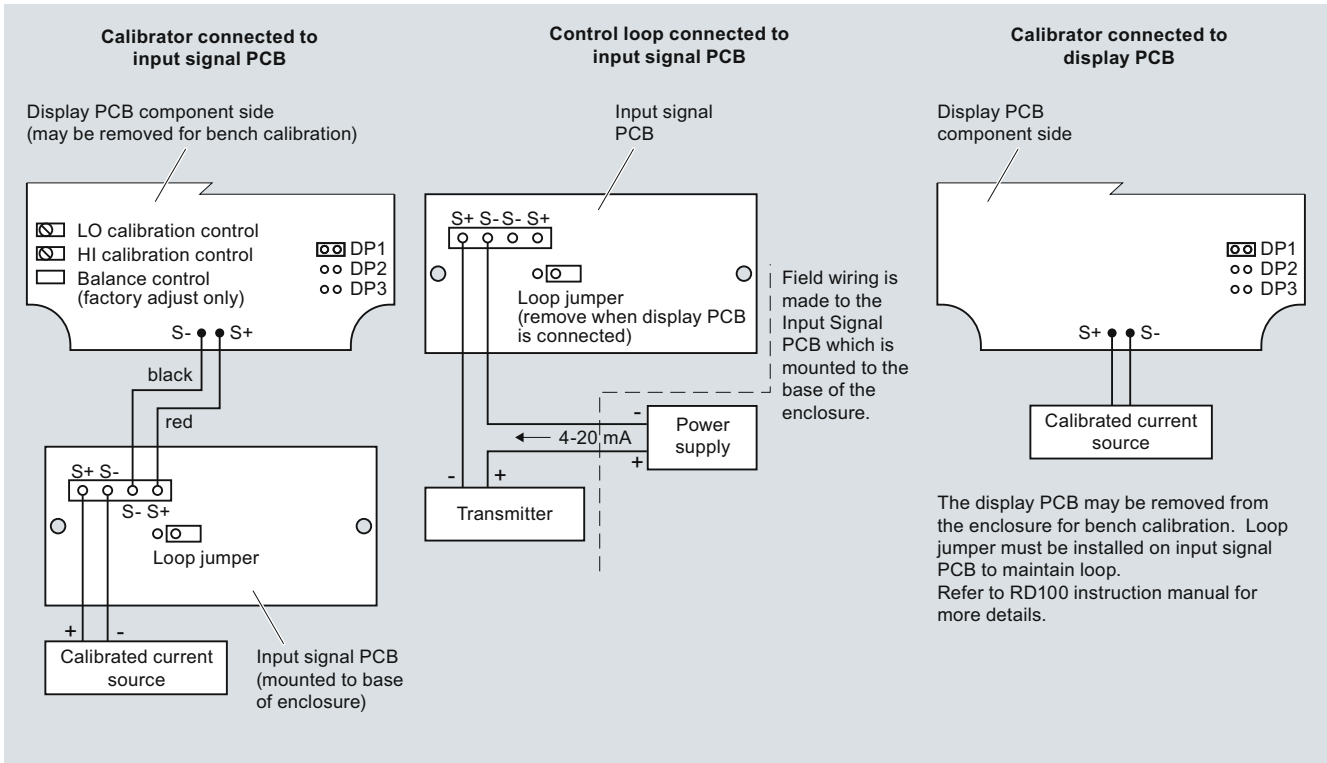
C) Subject to export regulations AL: N, ECCN: EAR99

Dimensional drawings



SITRANS RD100 dimensions in mm (inch)

Schematics



SITRANS RD100 connections

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

Supplementary Components

Displays

SITRANS RD200

Selection and Ordering data

SITRANS RD200

A universal input, panel mount remote digital display for process instrumentation.

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.

Transmitter supply

None

Single 24 V DC transmitter supply¹⁾
Dual 24 V DC transmitter supply¹⁾²⁾

Output

None
2 relays
4 ... 20 mA output

Communication

Modbus disabled
Modbus enabled

Approvals

CE, UL, cUL

- 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.

Order No.

C) **7ML5740-**

- 0 A

1

2

A

B

C

A

B

C

0

1

1

Selection and Ordering data

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

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

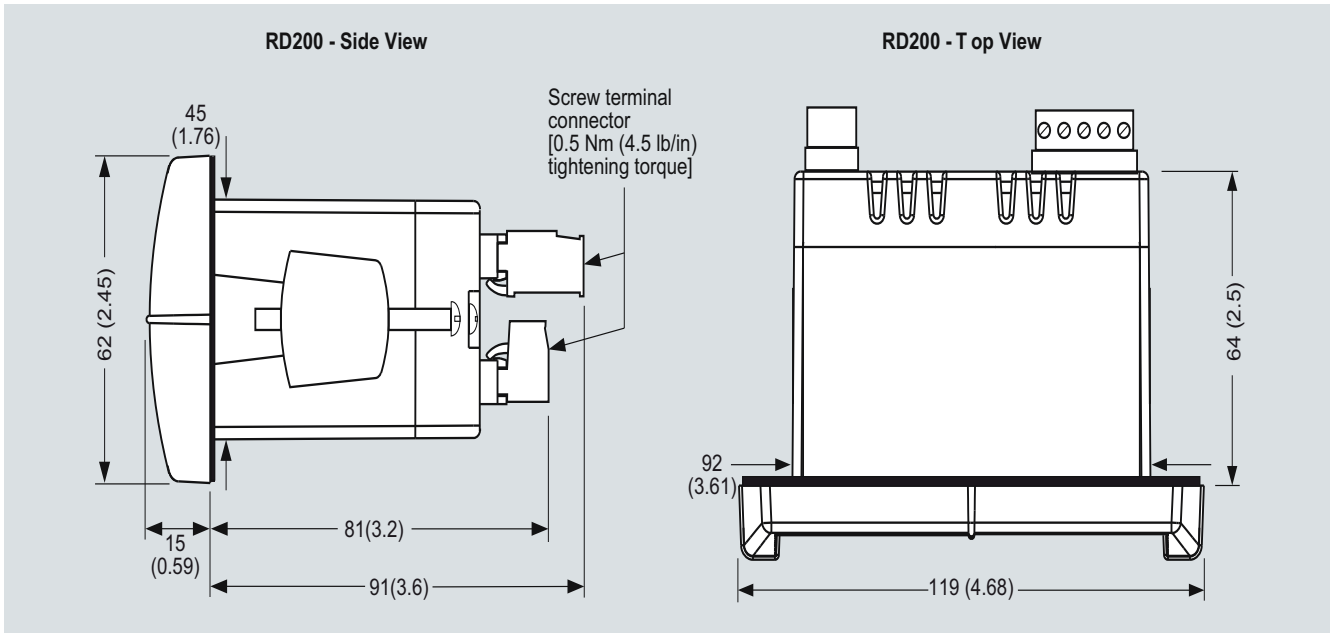
C) **7ML1930-1CY**

For use with 6 displays

C) **7ML1930-1DA**

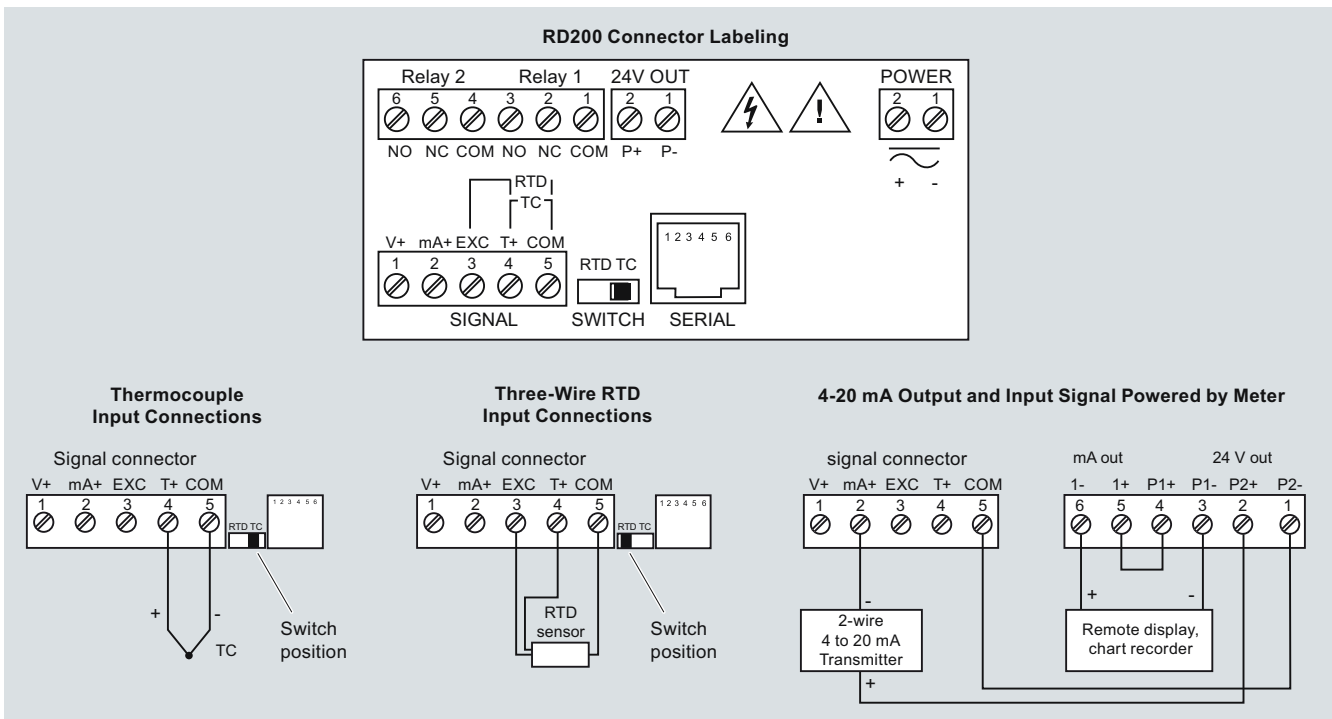
C) Subject to export regulations AL: N, ECCN: EAR99

Dimensional drawings



SITRANS RD200 dimensions in mm (inch)

Schematics



SITRANS RD200 connections

Supplementary Components

Remote Data Manager

SITRANS RD500

Overview



The SITRANS RD500 is a remote data manager providing integrated web access, alarm event handling, and data capture for instrumentation and other devices.

Benefits

- RD500 supports report and alarm events via email, SMS, and FTP transfer
- Web provides worldwide access to instrument data and RD500 configuration and setup
- Simple configuration, no programming or additional software required
- Offers scalability with optional I/O modules for current (4 to 20 mA), voltage (0 to 10 V), thermocouple (TC), resistance temperature detector (RTD), and digital I/O
- 10 base-TI 100 Base-TX ethernet and support for GSM, GPRS, and PSTN provide flexible remote communications options
- Supports up to 128 devices with the flexible I/O modules and up to 247 Modbus serial devices
- Integrated FTP server and client supports FTP data synchronization to central servers
- Compact flash slot supports up to 2 Gigabytes of expandable memory for data capture and storage
- Log files formats are CSV (comma separated values) for data files and HTML for report files
- Supports modbus TCP via ethernet and GPRS for easy integration into control systems

Application

The RD500 is an easy-to-use remote data manager, using a web-based application and hardware modules. The unique modular approach allows a variety of process signals to be monitored, while the serial ports allow data to be collected from any Modbus RTU device.

The RD500 comprises a master communications module, and up to 16 slave modules. Various module types are available, allowing up to a maximum of 128 conventional inputs and outputs. The RD500's serial ports can collect data from up to 247 Modbus RTU slave devices including field instruments.

The RD500's built-in web server, FTP, and email client allows the process to be monitored remotely. Alarm notifications are communicated through email and SMS text messages to one or more recipients to ensure that appropriate actions are taken by personnel.

The RD500 supports modems, providing flexibility for applications in which GSM/GPRS cellular or landline connectivity is desired.

The RD500 is configured via a web-based interface - a standard browser is all the software you need to configure your system.

- Key Applications: Remote monitoring, inventory management, web enabled instrumentation or other devices

