



Communication enabler

4511

- Programming display for system 4000 and 9000 devices as well as selected system 3000 devices
- Modbus RTU protocol interface over RS-485
- Monitor process value from the built-in display
- High 2.5 kV isolation to host unit
- Shielded RJ45 connector on top



Application

- The 4511 detachable display adds Modbus RTU RS-485 serial communications to all current and future 4000/9000 units.
- The unit converts a wide array of sensors and analog device signals measured by the system 4000 like uni- and bipolar mA and voltage signals, potentiometer, Lin. R, RTD and TC, to a Modbus communication line signal.
- When mounted on a system 9000 device any signal coming from or going to I.S. classified area, like AI, AO, DI and DO signals, can be converted to a Modbus network.
- All individual unit operating parameters can easily and quickly be configured by using the Modbus communication or by using the front display menu.
- The easily readable 4511 display can be used to read the process signal, simulate the output signal, indicate sensor errors and internal device errors.
- The 4511 can be moved from one device to another. The individual system 3000 / 4000 / 9000 device configuration of a transmitter can be saved and downloaded to subsequent transmitters.

Technical characteristics

- 4511 has full functionality for unit programming, process signal monitoring and diagnostics handling.
- Multidrop half-duplex connection via shielded RJ45 connector.
- High safe galvanic isolation of 2.5 kVAC between the serial wiring and the connected system 4000 / 9000 units.
- Modbus parameters such as address, baud rate, stop bit(s), and parity bit are configured from the 4511 display, which also stores parameters.

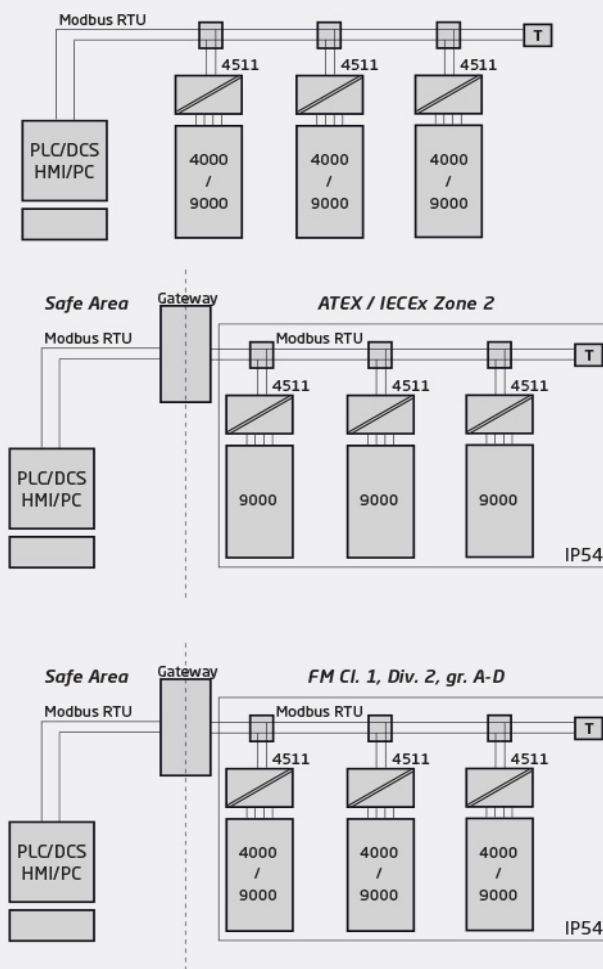
Mounting / installation / programming

- Mounting in Zone 2 / Div 2.
- All configuration data from a PR 3000 / 4000 / 9000 device can be transferred to a PC using the PR 4590.
- Programmed parameters can be protected by a userdefined password.
- When mounted on devices that are installed upside down, a menu item allows the display on the 4511 to be rotated 180 degrees and the up/down buttons to switch function.

Note

- If you need an installation instruction in hard copy, you can order it for free when placing your order.

Applications



Order

Type	Description
4511	Communication enabler
4590	Configmate interface

Environmental Conditions

Operating temperature.....	-20°C to +60°C
Storage temperature.....	-20°C to +85°C
Relative humidity.....	< 95% RH (non-cond.)
Protection degree.....	IP20
Installation in.....	Pollution degree 2 & meas. / overvoltage cat. II

Mechanical specifications

Dimensions (HxWxD).....	73.2 x 23.3 x 26.5 mm
Dimensions (HxWxD) w/ 4000/9000 unit.....	109 x 23.5 x 131 mm
Weight approx.....	30 g
Connection.....	RJ45 - shielded

Common specifications

Supply

Max. required power.....	0.15 W
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Isolation voltage

Isolation voltage, test / working.....	2.5 kVAC / 250 VAC reinforced isolation
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Response time

Response time.....	< 20 ms
Signal / noise ratio.....	> 60 dB
Update rate.....	> 50 Hz
Extended EMC immunity: NAMUR NE21, A criterion, burst.....	No loss of communication
Signal type.....	RS-485 half duplex
Serial protocol.....	Modbus RTU
Modbus mode.....	RTU - slave
Devices on an RS485 line.....	Up to 32 (w/o a repeater)
Data rates, baud.....	2400, 4800, 9600, 19200, 38400, 57600, 115200
Automatic baudrate detection.....	Yes - can be configured ON or OFF
Parity.....	Even, Odd, None
Stop bit(s).....	1 or 2
Digital addressing.....	1...247
Response delay.....	0...1000 ms
Host non-volatile memory lifespan, maximum number of Modbus write operations.....	10000

I.S. / Ex marking

ATEX.....	II 3 G Ex ec IIC T5
IECEX.....	Ex ec IIC T5 Gc
FM, US.....	Cl I, Div 2, Gp A, B, C, D T5; Cl I, Zn 2, AEx ec IIC T5 Gc
FM, CA.....	Cl I, Div 2, Gp A, B, C, D T5; Ex ec IIC T5 Gc

Observed authority requirements

EMC.....	2014/30/EU & UK SI 2016/1091
LVD.....	2014/35/EU & UK SI 2016/1101
ATEX.....	2014/34/EU & UK SI 2016/1107
RoHS.....	2011/65/EU & UK SI 2012/3032
EAC.....	TR-CU 020/2011

Approvals

ATEX.....	DEKRA 13ATEX0098 X
IECEX.....	DEK 13.0026 X
c FM us.....	FM22US0014X / FM22CA0009X
UKEX.....	DEKRA 21UKEX0167X
CCC.....	2025322310006444
c UL us, UL 61010-1.....	E314307
DNV Marine.....	TAA00000JD