

Remote I/O

IS1+ Remote I/O CPU module

For Zone 2

9442/35-10-00 Art. No. 246854



- Support for PROFIBUS DP, PROFINET, Modbus TCP and EtherNet/IP™; incl. HART transmission and redundancy
- RS485 interfaces (max. 12 Mbit/s) and Ethernet (max. 100 Mbit/s)
- Comprehensive diagnostics based on NE 107
- Support of FDT/DTM and web server for integration in asset management systems
- Enhanced ambient temperature range from -40 °C to +75 °C (-40 °F to +167 °F)

WebCode 9442A



Modbus TCP

EtherNet/IP



The 9442/35 CPU module functions as a gateway between the IS1+ Remote I/O system and the automation system. All supported communication protocols are in the CPU module and can be configured by the user. In addition to the process values, other information such as diagnostics, parameterisation and configuration is transmitted over the CPU module. Communication with the I/O modules is implemented via the 9496 socket and the 9494 BusRail. Integration in control systems and plant asset management tools is implemented using standards such as GSD, EDS, web servers and FDT/DTM.

Technical Data

Explosion Protection

Application range (zones)	2
Application range (Zone) note	Zone 22 is only permissible if a suitable enclosure is used!
Ex interface zone	2
IECEX gas certificate	IECEX PTB 17.0031X
IECEX gas explosion protection	Ex ec ia [ja Ga] IIC T4 Gc
ATEX gas certificate	PTB 17 ATEX 2019 X
ATEX gas explosion protection	Ex II 3 (1) G Ex ec ia [ja Ga] IIC T4 Gc
FMus certificate	FM17US0332X
cFM certificate	FM16CA0134X
Marking cFMus	NI, Class I, Div. 2, Groups A,B,C,D; Class I, Zone 2, AEx/Ex ec ia [ja Ga] IIC T4 Gc Ta = -40°C ... +75°C See Doc. 9442 6 031 022 1
Certificates	ATEX (PTB), Canada (FM), IECEX (PTB), Korea (KTL), USA (FM)
Ship approval	ABS, BVIS, EU RO MR (DNV), KR, LR
Notes	CCC, UKCA certificate available from 2022 onward
Installation	Zone 2

Electrical Data

Protocol setting	Via rotary switch S1 on the 9496/35 socket
Redundancy	Full redundancy Line redundancy Supply redundancy
RS485 interface connection	Sub-D plug, 9-pole
RS485 interface	As per PROFIBUS specification

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Electrical Data

RS-485 interface protocol	Profibus DP V0 Profibus DP V1 HART
Line termination RS485	Powered resistor (end-of-line resistor in the Sub-D plug, see accessories)
Address setting RS485	using the rotary switch S2 and S3 on the 9496/35 socket
Address range RS485	1 – 99
Copper RS485 transmission length/rate	1200 m at 9.6 to 93.75 kbps 1000 m at 187.5 kbps 400 m at 500 kbps 200 m at 1.5 Mbps 100 m at 12 Mbps
Transfer length/rate FO RS485	Approx. 2000 m at 1.5 Mbit/s
Max. voltage U_m RS485	≤ 30 V DC
Max. voltage U_m RS485 note	with FO fieldbus isolating repeater 9186, see accessories
Ethernet interface connection	2 x RJ45 socket
Interface RJ45	100BASE-TX Unmanaged switch function
RJ45 protocols	MODBUS TCP EtherNet/IP™ PROFINET
IP address setting	using a web server or IS1+ detect software (default: 192.168.1.101)
Transfer rate RJ45	Max. 10/100 Mbps Auto-negotiation
Transfer length copper RJ45	100 m
Transfer length FO RJ45	2000 m multi mode 30 km single mode
Transmission distance FO RJ45 note	with media converter / 9721 switch, see accessories
Max. voltage U_m RJ45	≤ 30 V DC
USB interface	Type A socket
USB version	USB 2.0
USB address setting	Identical to RS485 address
USB transfer rate	Max. 480 Mbps
Max. USB current	250 mA
Max. voltage U_m USB	≤ 30 V DC
USB protocols	Service bus

Auxiliary Power

Power supply	Via socket 9496 and PM 9445/35
Max. current consumption	0.3 A
Max. power dissipation	5 W

Galvanic Isolation

Auxiliary power/CPU	≥ 1500 V AC
CPU/CPU (redundancy)	≥ 1500 V AC

Device Specific Data

Software	IS1 device DTM IS Wizard Web server
LED module requires maintenance	"M/S" LED, blue
LED operating conditions	"PWR" LED, green

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Device Specific Data

LED group error	"ERR" LED, red
Diagnostic/parameterisation functions	<ul style="list-style-type: none">- Use the web server or IS1+ detect software to set the IP address (for Ethernet)- Web server- Load or read back configuration data and parameters in the IS1+ field stations- Read inputs- Read and write outputs- Transmit diagnostics data (e.g. configuration error, hardware error, signal error)- Transmit HART commands from/to HART field devices- Firmware downloads using the web server
Diagnostic/parameterisation connectable software packages	<ul style="list-style-type: none">- IS Wizard (using the USB ServiceBus)- R. STAHL DTM devices with FDT frames (e.g. FDT container by M+M; PACTware)- AMS by Emerson Process Management- PDM by Siemens- PRM and Fieldmate by Yokogawa- FieldCare by Endress + Hauser- FDM by Honeywell
Retrievable parameters	Hardware revision Manufacturer Serial number Software revision Type
LED data traffic automatic system	"AS EXCH" LED, green
LED configuration	"CFG ERR" LED, red
LED data traffic RS485	"RXTX X1 RS-485" LED, green
LED port connection RJ45 port 1	"LINK X2 LAN P1" LED, yellow
LED data traffic RJ45 port 1	"RXTX X2 LAN P1" LED, green
LED port connection RJ45 port 2	"LINK X2 LAN P2" LED, yellow
LED data traffic RJ45 port 2	"RXTX X2 LAN P2" LED, green
LED USB data traffic	"RXTX X3 USB" LED, green
Ambient Conditions	
Ambient temperature	-40°C ... +65°C (without mounting plate) -40°C ... +70°C (With 3 mm sheet steel mounting plate) -40°C ... +75°C (With 6 mm aluminium mounting plate)
Ambient temperature	-40°F ... +149°F (without mounting plate) -40°F ... +158°F (With 3 mm sheet steel mounting plate) -40°F ... +167°F (With 6 mm aluminium mounting plate)
Ambient temperature note	Mounting on a BusRail (DIN mounting rail) -40 – 70 °CC on a galvanised, sheet steel mounting plate of at least 3 mm using four additional safety screws -40 – 75 °C on a coated, aluminium mounting plate of at least 6 mm using four additional safety screws (EN-AW6082 or comparable heat conductivity)
Storage temperature	-40°C ... +80°C
Storage temperature	-40°F ... +176°F
Max. operating altitude	< 2000 m
Max. relative humidity	95% (without condensation)
Shock (semi-sinusoidal)	(IEC EN 60068-2-27) 15 g (3 shocks per axis and direction)

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Ambient Conditions

Vibration (sinusoidal)	(IEC EN 60068-2-6) Frequency range 2 ... 13.2 Hz Amplitude 1 mm (peak value) Frequency range 13.2 ... 100 Hz Acceleration amplitude 0.7 g
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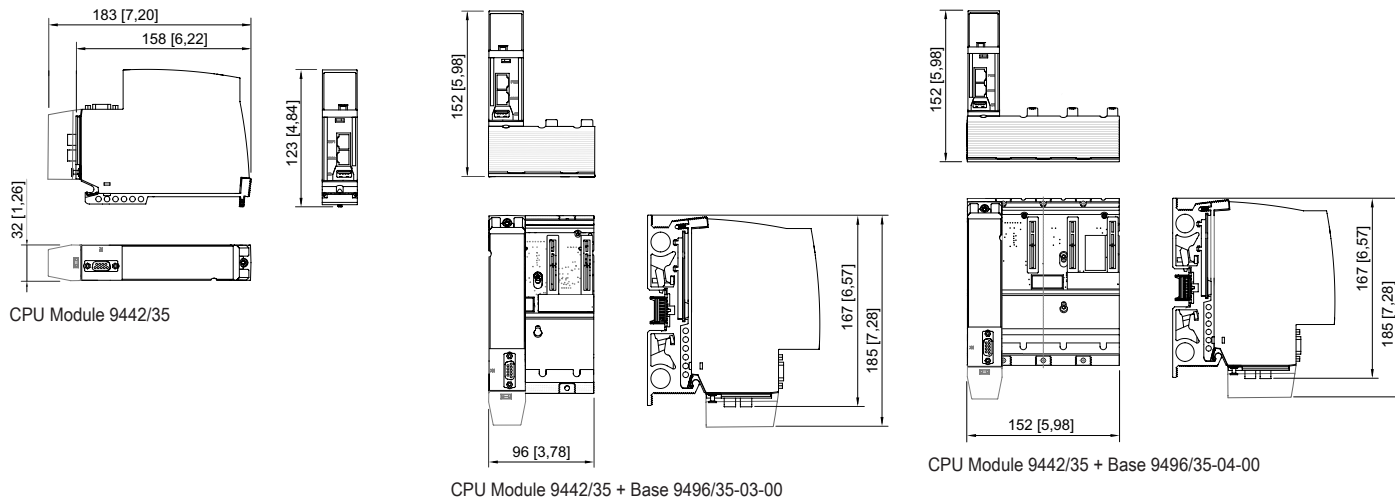
Mechanical Data

IP degree of protection (IEC 60529)	IP30
Module enclosure	Polyamide 6GF Seawater-resistant aluminium
Fire resistance (UL 94)	V2
Pollutant class	Corresponds to G3
Width	32 mm
Width, inches	1.26 in
Depth	123 mm
Length	152 mm
Length, inches	5.98 in
Mounting depth, inches	4.84 in
Weight	1 kg
Weight	2.2 lb

Mounting / Installation

Mounting orientation	Horizontal Vertical
Module fuse	Torx T20 screws
Note	Only connect the 9442/35 CPU to the 9496/35 socket

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



Accessories

Series 9496/35 - Socket for CPU & Power Module

	Zone 2 simplex, 3 slots for mounting / installing 1 x CPU and 2 x power module or 2 x CPU und 1 x power module Dimensions: approx. L = 167 mm, W = 96 mm, H = 50.6 mm	Art. No. 246871
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	Zone 2 redundant, 4 slots for mounting / installing 2 x CPU and 2 x power module Dimensions: approx. L = 167 mm, W = 152 mm, H = 50.6 mm	262392
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Fieldbus Isolating Repeater Series 9185/12 Art. No.

	Equipment for installation in safe areas or Zone 2 / Div. 2 For fieldbuses with RS-485 interface. Suitable for PROFIBUS DP, Modbus, R. STAHL service bus. RS-232, RS-422, RS-485 interface with the automation system Transmission rate automatically set with PROFIBUS DP Adjustable transmission rate (1.2 kbit/s to 1.5 Mbit/s) 24 V AC/DC auxiliary power For further information, see data sheet for 9185/12 series	227600
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Optical Fieldbus Isolating Repeater, Zone 2 / Div. 2 Art. No.

	Isolating repeater for installation in Zone 2 / Div. 2 For fieldbus via fibre optic intrinsically safe cables "ex op is" into Zone 1 / Div. 1 Compatible with devices from series 9186 Optical ring possible Extensive diagnostic function and fault-contact Suitable for Profibus DP up to 1.5 MBit/s Further information see data sheet of Series 9186 optical fieldbus-isolating repeater	160624
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Optical fieldbus isolating repeater, Zone 2 / Div. 2 Art. No.

	Isolating repeater for installation in Zone 2 / Div. 2 For fieldbus via fibre optic intrinsically safe cables „ex op is“ into Zone 1 / Div. 1 Point-to-point or line structure Extensive diagnostic function and fault-contact Suitable for Profibus DP up to 1.5 MBit/s Further information see data sheet of Series 9186 optical fieldbus-isolating repeater	160625
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Media converter FX op is / TX SC for Zone 2 Art. No.

	Media Converter of 10/100 Base-TX (1 x RJ45 port) to 100 Base-FX "Ex op is" (1 x FO port SC); Multi mode (up to 4 km range); Webcode: 9721A	220381
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Unmanaged Switch FX op is / TX SC for Zone 2 Art. No.

	Unmanaged Switch FX op is to TX; SC plug connector FO cable 4 multi mode (MM), 2 RJ45, Installation in Zone 2	243427
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Device DTM IS1+ for PROFIBUS DP and Ethernet Art. No.

	Parameterization and configuration of the IS1+ system Communicating with HART-compatible field devices Supports all common FDT frame applications (e.g. FieldCare, PactWare™) Condition Monitoring Scan function for automatic topology generation Download at r-stahl.com	
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Device DTM IS1 Series 9499

Art. No.

	<ul style="list-style-type: none">- Parametrisation and configuration of the IS1+ system- Communication with HART-compatible field devices- Support for all common FDT frame applications (e.g. FieldCare, PactWare™)- Condition monitoring- Scan function for automatic topology generation- Download from r-stahl.com	
	9499/DTM-IS1-02 Com/Device/HART 30 Free-of-charge software licence for up to 30 HART devices	251237
	9499/DTM-IS1-04 Com/Device/HART 300 Software licence for up to 300 HART devices	251239
	9499/DTM-IS1-06 Com/Device/HART unlted. Software licence for an unlimited number of HART devices	251240


IS1 PCS7 APL field device library

Art. No.

	Easy integration of IS1+ systems into SIEMENS PCS7 V9 SP2: <ul style="list-style-type: none">- PROFIBUS DP with CPM 9440 starting with GSD 3.12; CPU 9442 starting with GSD 5.14- PROFINET with CPU 9441 starting with GSDML-V2.3-Stahl-RIO-20140206; CPU 9442 starting with GSDML-V2.34-Stahl-RIO9442-20200427 Further information and order processing exclusively through company Siemens: www.siemens.com/mvdi	
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AOI Tool

Art. No.

	Easy integration of IS1+ systems into Rockwell ControlLogix and CompactLogix via EtherNet/IP and AOI (Add On Instructions). Note: The DTM 9499/DTM-IS1 is additionally required. Download at r-stahl.com	
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USB Converter

Art. No.

	USB RS485 converter for installation in Zone 2. Noise insensitive, bidirectional conversion of USB data to RS485 serial data with power supply via USB port. Can be used for various applications, e.g. for missing RS485 interfaces to PCs. For further information, see data sheet for Series 9787 - Webcode 9787A	266011
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Sub-D plug + PG interface

Art. No.

	9-pole for connection of fieldbus or Servicebus to CPU & power module type 9440/15 and fieldbus isolatingrepeater 9185. The end-of-line resistor is installed and switchable. For non-intrinsically safe RS-485.	105715
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We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.