- Suitable for Ex i V0/V1 HART PROFIBUS DP, Modbus RTU
- Supporting system redundancy and optical rings
- CPM in Zone 1 can be hot swapped
- Integration in plant asset management systems via ServiceBus and FDT/DTM
- Integrated Ex i power supply for up to 8 I/O modules

WebCode **9440A**

PROFIBUS   Modbus RTU   HART COMMUNICATION PROTOCOL   FDT TECHNOLOGY

9440/22 series CPU & power modules (CPM) for Zone 1 are used for the intrinsically safe supply of power to up to eight IS1+ I/O modules and to field circuits. Intrinsically safe RS485-IS with PROFIBUS DP or Modbus RTU is used for communicating with the automation system. These CPMs support system and optical rings and can be replaced while the system is in operation (i.e. hot swapped) in Zone 1/Division 1. A DTM and process bus or service bus are used for asset management integration.

	ATEX / IECEx					
Zone	0	1	2	20	21	22
Ex interface		•	•		•	•
Installation in		•	•		•	•

	NEC 505 Class I			NEC 506		
Zone	0	1	2	20	21	22
Ex interface		•	•		•	•
Installation in		•	•		•	•

	NEC 500					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Ex interface	•	•	•	•	•	•
Installation in	•	•	•	•	•	•

Selection Table

Installation			Zone 1 / Division 1				
Nominal voltage	Protocols	Redundancy	Product Type	Art. No.	PS	Weight kg	
24 V DC	Modbus RTU	full redundancy line redundancy	9440/22-01-11-C1202	162221	22	2.963	
	Profibus DP V0 Profibus DP V1 Profibus DP V1 HART	full redundancy line redundancy	9440/22-01-11-C1243	162218 ▲	22	2.963	
		acc. to PNO full redundancy line redundancy	9440/22-01-11-C1455	203585	22	2.963	
120 V / 230 V AC	Modbus RTU	full redundancy line redundancy	9440/22-01-21-C1202	162214	22	2.963	
	Profibus DP V0 Profibus DP V1 Profibus DP V1 HART	full redundancy line redundancy	9440/22-01-21-C1243	162211 ▲	22	2.963	
		acc. to PNO full redundancy line redundancy	9440/22-01-21-C1455	203586	22	2.963	

Technical Data

Variant	24 V DC	120 V / 230 V AC
Explosion Protection		
Gas explosion protection IECEx	Ex d [ia] [ib] IIC T4 Gb	Ex d [ia] [ib] IIC T4 Gb
Gas explosion protection ATEX	⟨Ex⟩ II 2 G Ex d [ia] [ib] IIC T4 Gb	⟨Ex⟩ II 2 G Ex d [ia] [ib] IIC T4 Gb
Gas explosion protection EAC	Ex 1 Ex d [ia Ga] [ib] IIC T4 Gb X	Ex 1 Ex d [ia Ga] [ib] IIC T4 Gb X

1

▲ Preferred products – in stock or available at short notice
28. 04. 2019· PO·en

A4

Technical Data

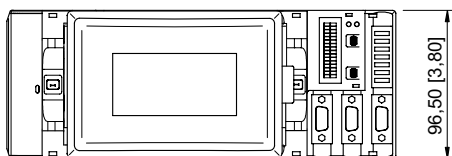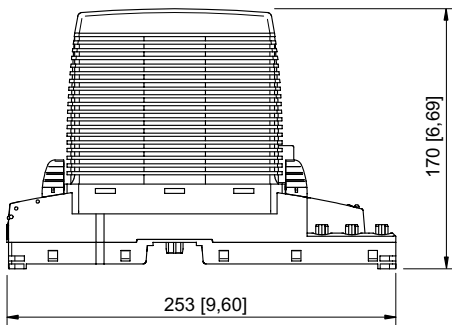| Variant	24 V DC	120 V / 230 V AC
Explosion Protection		
Certificates	ATEX (DEK), Brazil (ULB), Canada (CSA), Canada (FM), EAC (STV), IECEx (DEK), Korea (KTL), USA (FM)	ATEX (DEK), Brazil (ULB), Canada (CSA), Canada (FM), EAC (STV), IECEx (DEK), Korea (KTL), USA (FM)
Ship approval	ABS, CCS, ClassNK, DNVGL, RINA	ABS, CCS, ClassNK, DNVGL, RINA
Electrical Data		
Transmission distance/rate copper RS485	1200 m at 9.6...93,75 kbit/s 1000 m at 187.5 kbit/s 400 m at 500 kbit/s 200 m at 1.5 Mbit/s	1200 m at 9.6...93,75 kbit/s 1000 m at 187.5 kbit/s 400 m at 500 kbit/s 200 m at 1.5 Mbit/s
Auxiliary Power		
Auxiliary power voltage range	20 ... 35 V DC	90 ... 253 V AC
Current consumption (without I/O modules)	0.21 A at 24 V DC	Approx. 25 mA at 230 V AC Approx. 48 mA at 120 V AC
Current consumption (with	Approx. 2.5 A at 24 V DC	Approx. 0.4 A at 230 V AC Approx. 0.8 A at 120 V AC
Power dissipation (without I/O modules)	6 W	8.4 W
Power dissipation (per I/O <Discret	1.4 W	1 W
Ambient Conditions		
Ambient temperature	-20°C ... +65°C	-20°C ... +65°C
Mechanical Data		
Connection Fieldbus RS485	Sub-D socket 9-pole	Sub-D socket 9-pole
Connection ServiceBus RS485	Sub-D socket 9-pole	Sub-D socket 9-pole
Degree of protection IP (IEC 60529)	IP20 connections IP30 modules	IP20 connections IP30 modules
Width	96.5 mm	96.5 mm
Depth	170 mm	170 mm
Length	253 mm	253 mm

Accessories and Spare Parts

Figure	Description		Art. No.	Weight kg
Cable for PROFIBUS DP, RS 485, RS485-IS				
	Cable type: Colour (sheath): Application area:	BUS 4000-C-PE 2x0,64mm 02YS(St) CY2Y black Outdoor Installation outdoors and directly in the ground, UV-resistant	105444	0.300
Cable for PROFIBUS DP, RS485-IS				
	Cable type: Colour (sheath): Application area:	02YS(St) CHSH blue Offshore Halogen-free, steel wire braid armoured cable	105400	0.001
	Cable type: Colour (sheath): Application area:	BUS 4000-C-PVC 2x0,64mm 02YS(St) CY blue Indoor Standard type for indoor installation	105437	0.001
Socket for CPU and Power Module Series 9490				
	Zone 1 connection by means of Ex e terminals 24 V DC, 120 / 230 V AC		162707 ▲	0.482
	Zone 1, connection via pig tail 24 V DC, 120 / 230 V AC		162711	0.900
	Division 1, connection via conduit 24 V DC, 120 / 230 V AC		162715	0.900

2

▲ Preferred products – in stock or available at short notice

28. 04. 2019· PO·en

Figure	Description	Art. No.	Weight kg
SUB-D socket			
	9-pin for connection of the fieldbus or ServiceBus to the CPU & power module Series 9440/22 and fieldbus-isolating repeater 9185. Integrated terminator can be switched on or off. For RS 485 IS to PNOstandard.	162693 ▲	0.100
Optical fieldbus isolating repeater, Zone 2 / Div. 2			
	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 Optical ring possible Extensive diagnostic function and fault-contact Suitable for Profibus DP up to 1.5 MBit/s Further versions and information see data sheet of Series 9186 optical fieldbus-isolating repeater	160624 ▲	0.244
Fieldbus Isolating Repeater Series 9185/11			
	Equipment for installation in safe areas or Zone 2/Div. 2 For fieldbuses with RS-485-IS-interface - Zone 1 / Class I, II, III Division 1 and Class I, II, III Zone 1 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 9185/11	227598	0.350
Device DTM IS1+ for PROFIBUS DP and Ethernet			
	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	–	–
IS1 PCS7 APL field device library			
	Easy connection of IS1+ modules to the SIEMENS control system PCS7 via PROFIBUS DP. The library contains CFC driver modules created in conformance with PCS7 modules, and documentation in English. HOTLINE support inclusive. Order, processing and support are carried out directly via SIEMENS: function.blocks.industry@siemens.com Hardware/software requirements: SIEMENS PCS7 V7.1 to 8 SP2 and IS1+ CPM 9440/…C1455 from V03.45 and GSD from V03.05	–	–

▲ Preferred products – in stock or available at short notice
28. 04. 2019· PO·en

CPU & Power Module for Zone 1 with connection by
means of a pig tail
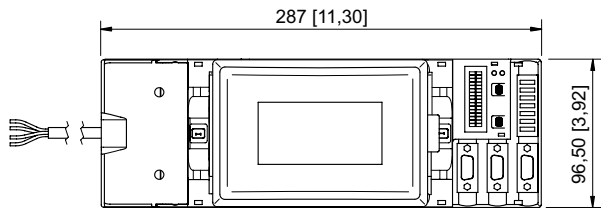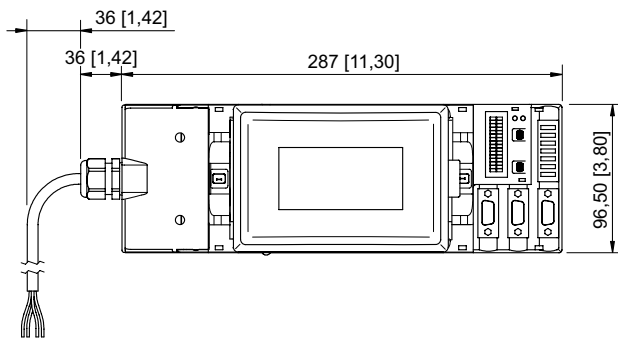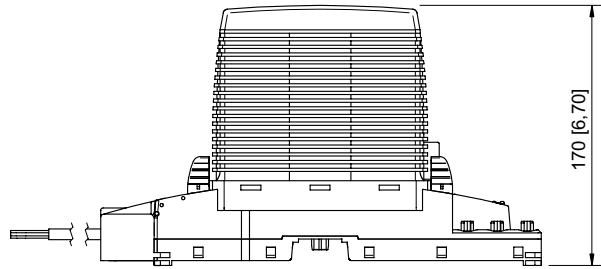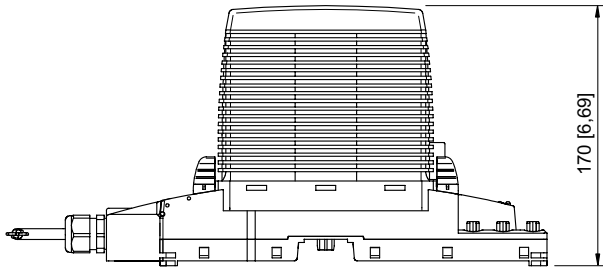
CPU & Power Module for Division 1 with connection
by means of a conduit

CPU & Power Module for Zone 1 with connection by
means of Ex e terminals

▲ Preferred products – in stock or available at short notice

28. 04. 2019· PO·en