

Engineering Guideline

pac-Carriers Type 9195

SIEMENS SIMATIC PCS 7

for ET 200M distributed I/O system



Integration of conventional process automation interfaces - pac-Carrier

The pac-Carrier reflects the intention of R. STAHL to provide state-of-the-art concepts tailored to the needs of process automation. It is designed to reduce the cost of installation by space saving compact design and simplified installation. The Ex i / I.S. isolators can be mounted without the need for a tool. The intrinsically safe signal is directly connected to the modules by means of two different types of detachable connectors - screw type or spring clamp type.

The connection to the control system I/O module is established by connecting a specific cable from SIEMENS to the connector of the pac-Carrier.

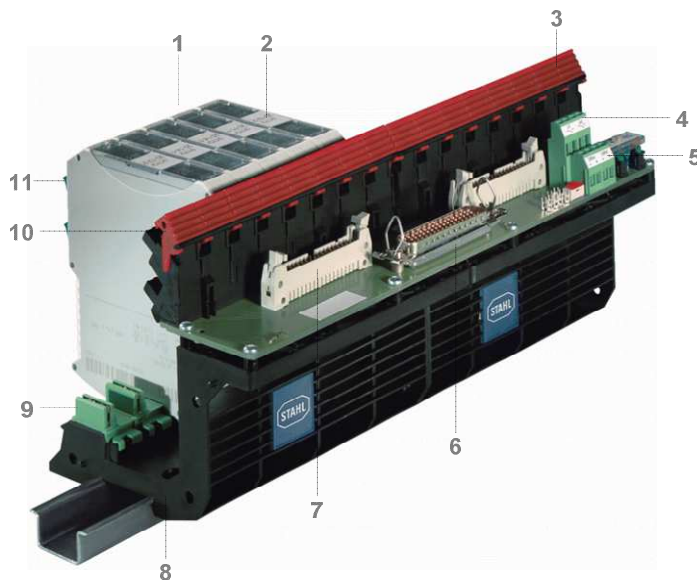
The use of the pac-Carrier reduces the required time for installation and enables pre-wiring for later upgrades.

Test accomplished

In order to ensure a reliable interworking with the SIMATIC ET 200M system the ISpac solution was thoroughly tested by SIEMENS. The solution passed the test.

Your benefits:

- The most flexible system for the integration of Ex i / I.S. signals
- Complete line fault transparency - no blind spots
- Compact and rugged installation
- Pre-wiring enables easy and fault proved upgrade
- Systems for installation in hazardous location for the control system and Ex i / I.S. isolation made by R. STAHL



1. Detachable connectors
 - Screw terminals or
 - Cage clamp terminals or
 - Insulating cutting terminals
2. Labelling for module, slot and carrier
3. Ejector mechanism
4. Redundant and fused supply
5. Power supply failure and line fault signalling via relay
6. System cable plug
7. Signal duplication and/ or connection HART multiplexer
8. For DIN rail or mounting plate
9. Integrated pac bus for power supply and line-fault signalling
10. Secure snap-in mechanism, without tool
11. Single slot, any signal mixture

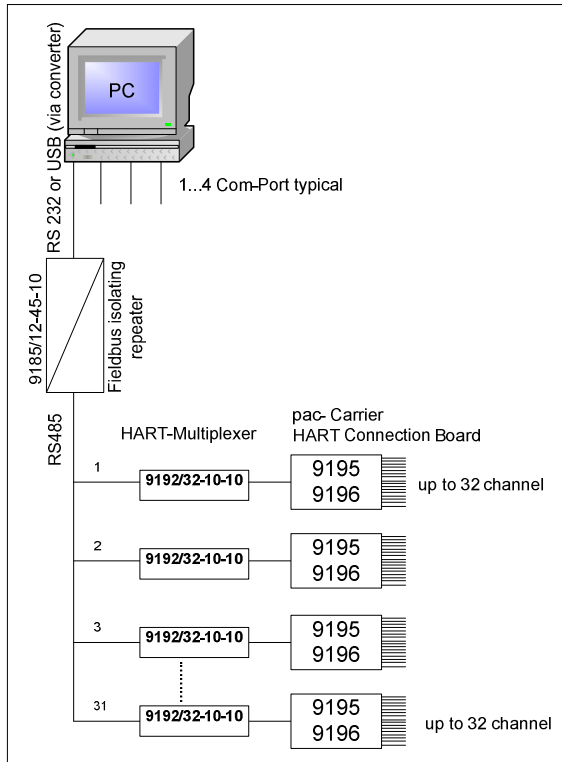
Example of 16 slots pac-Carrier



HART-Multiplexer Type 9192

Basic function: multiplexer for HART field devices, 32 channels. The HART-Multiplexer type 9192 is used for digital connection of up to 32 HART-capable field devices, such as transmitters and regulating valves, to a PC. The PC communicates with the HART-Multiplexer via an RS 485. The software PDM allows configuration and diagnostics of all connected HART-capable field devices, plus continuous documentation of the process variables and status.

Interconnection:

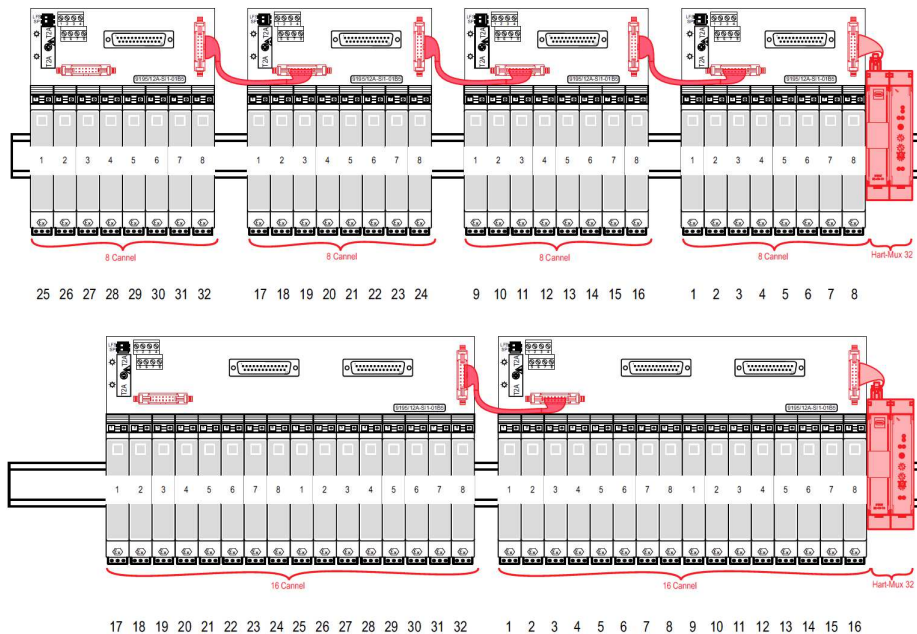


Components

Designation	Description	Order number
Fieldbus isolating repeater	<ul style="list-style-type: none"> Conversion of RS-485 to RS-232 Adjustable baud rate (1.2 kBit/s up to 1.5 MBit/s) 	9185/12-45-10s
pac-Carrier	8 slots, HART connection	9195/11H-...-... or 9195/12H-...-...
	8-slots, without HART connection	9195/11A-...-... or 9195/12A-...-...
	16 slots, HART	9195/21H-...-... or 9195/22H-...-...
	16-slots, without HART connection	9195/21A-...-... or 9195/22A-...-...



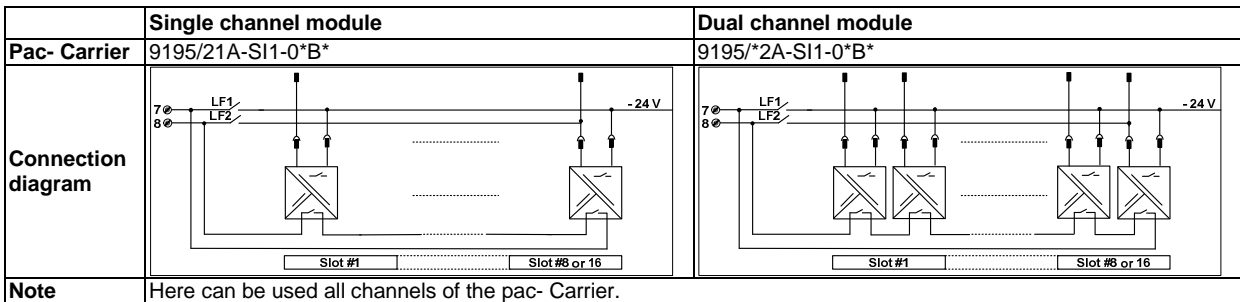
Daisy chaining of several pac-Carriers to one HART-Multiplexer:



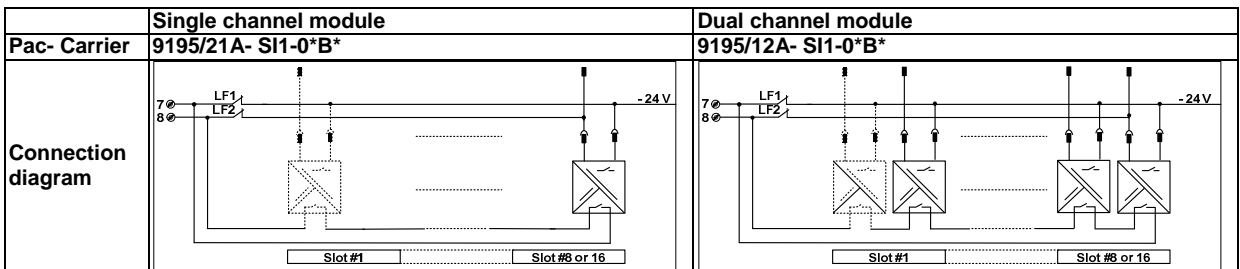
Line fault detection alarms for DI pac-Carrier

• **For one pac- Carrier**

1. LFD is routed to terminal 7 and 8 on the pac-Carrier (switch LF1 and LF2 OFF).

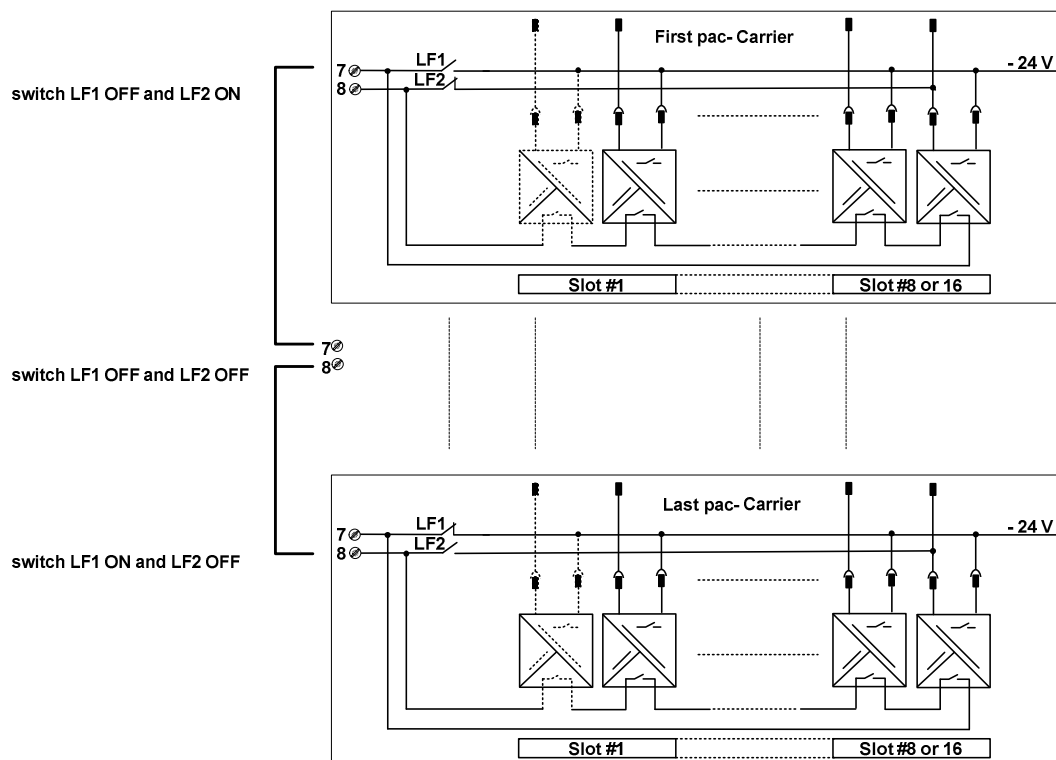


2. LFD is routed into the last channel on the pac- Carrier; this avoids any external wiring of this alarm signal (switch LF1 and LF2 ON).



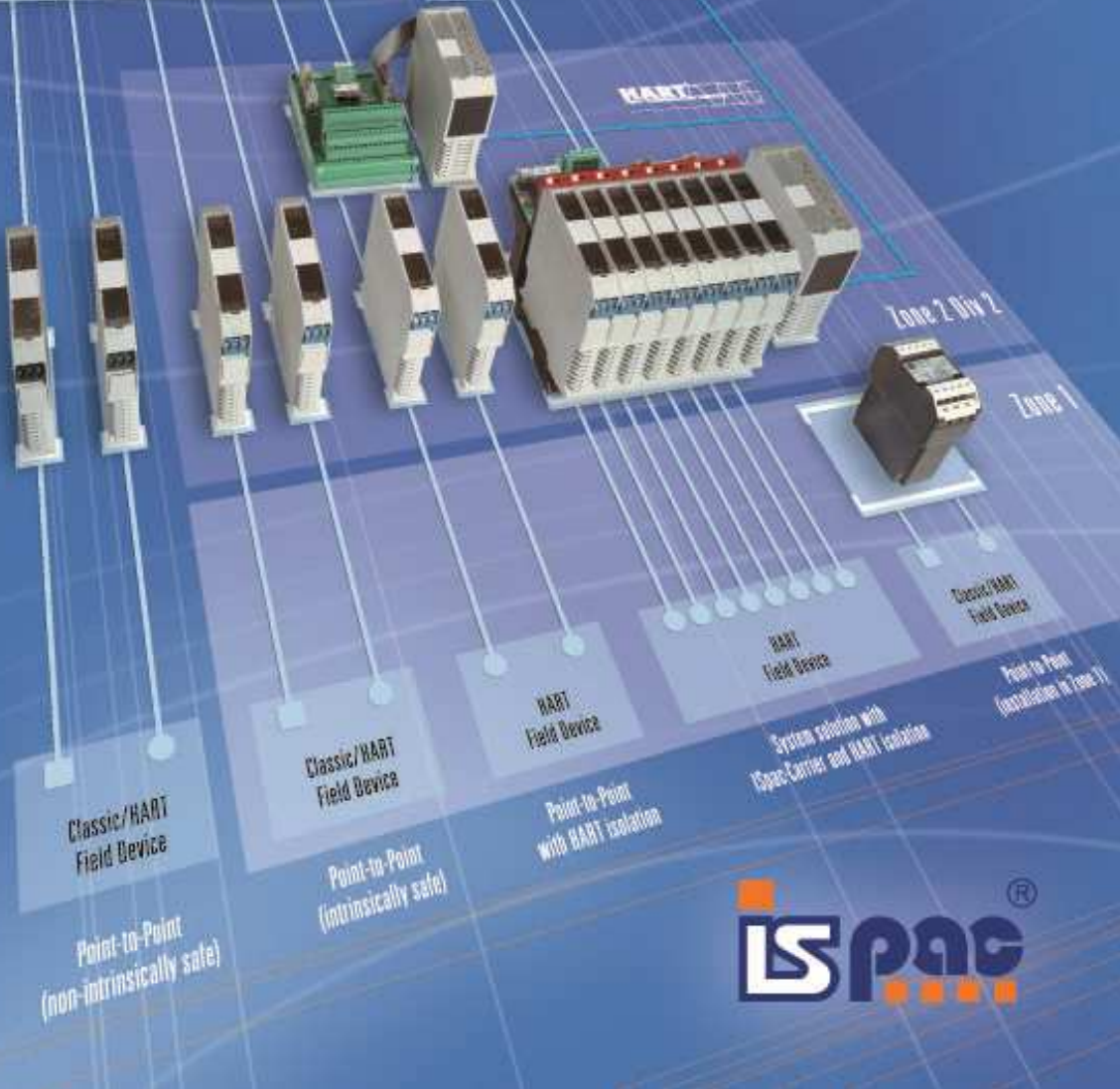
• **For several pac-Carriers**

1. These are routed into the last channel on the first pac- Carrier; this avoids any external wiring of LFD signal (one channel is reserved for all line faults in switch cabinet).





Point to Point Solutions



Contents

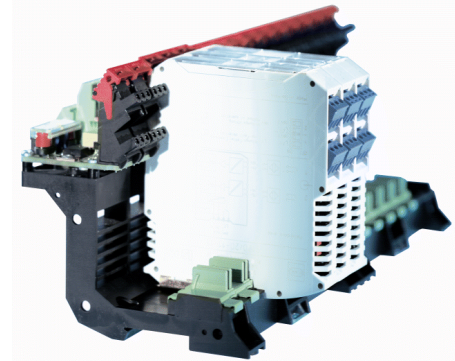
SIMATIC ET 200M				pac-Carrier (Ex-MTA)				
Signal type	I/O cards type	SIEMENS cable type	Channels	Slots	HART-MUX	pac-Carrier type	ISpac	page
DI (SM 321)	6ES7321-7BH01-0AB0	6ES7922-3B..1-0AM0 (D-Sub 25 M pole)	16	8	No	9195/12A-SI1-01B5	9170/21-11-11	8-12
			16	16	No	9195/21A-SI1-01B5	9170/11-11-11	13-17
	6ES7321-1BH02-0AA0		16	8	No	9195/12A-SI1-02B5	9170/21-11-11	19-22
			16	16	No	9195/21A-SI1-02B5	9170/11-11-11	23-27
DO (SM 322)	6ES7322-8BH10-0AB0	6ES7922-3B..0-0AT0 (D-Sub 25 FM pole)	16	8	No	9195/12A-SI1-03B4	9176/20-1*-00	29-33
			16	16	No	9195/21A-SI1-03B4	9176/10-1*-00	34-39
AI (SM 331)	6ES7331-7NF00-0AB0	6ES7922-3B..0-0AS0 (D-Sub 50 M pole)	8	8	Yes	9195/11H-SI1-04B6	9160/13-11-10 9163/13-11-10 9182/10-51-11 9146/10-11-12	41-45
	6ES7331-7NF10-0AB0		8	8	Yes		9195/11H-SI1-05B6	9160/13-11-10 9163/13-11-10 9182/10-51-11 9146/10-11-12
	6ES7331-7TF01-0AB0	6ES7922-3B..1-0AM0 (D-Sub 25 M pole)	8	8	No	9195/11A-SI1-06B5	9160/13-11-10 9163/13-11-10 9182/10-51-11 9146/10-11-12	53-57
	6ES7 331-7TF01-0AB0	6ES7922-3B..1-0AM0	16	8	No	9195/12A-SI1-06B5	9160/23-11-10 9163/23-11-10	59-63
AO (SM 332)	6ES7332-5HF00-0AB0	6ES7922-3B..0-0AS0 (D-Sub 50 M pole)	8	8	Yes	9195/11H-SI1-07B6	9165/16-11-10 9167/1*-11-00	65-69
	6ES7332-8TF01-0AB0	6ES7922-3B..1-0AM0 (D-Sub 25 M pole)	8	8	No	9195/11A-SI1-08B5	9165/16-11-10 9167/1*-11-00	71-75



**pac-Carrier
Type 9195/12A-SI1-01B5**

For SIEMENS / ET 200M / 6ES7321-7BH01-0AB0

- Signal types: 16 x DI
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator 9170/21-11-11 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- LFD can be routed into the first channel on the pac- Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- 2 x T 1,25 A Fuse for power supply SIEMENS I/O-module
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non-conductive dust) and Div. 2

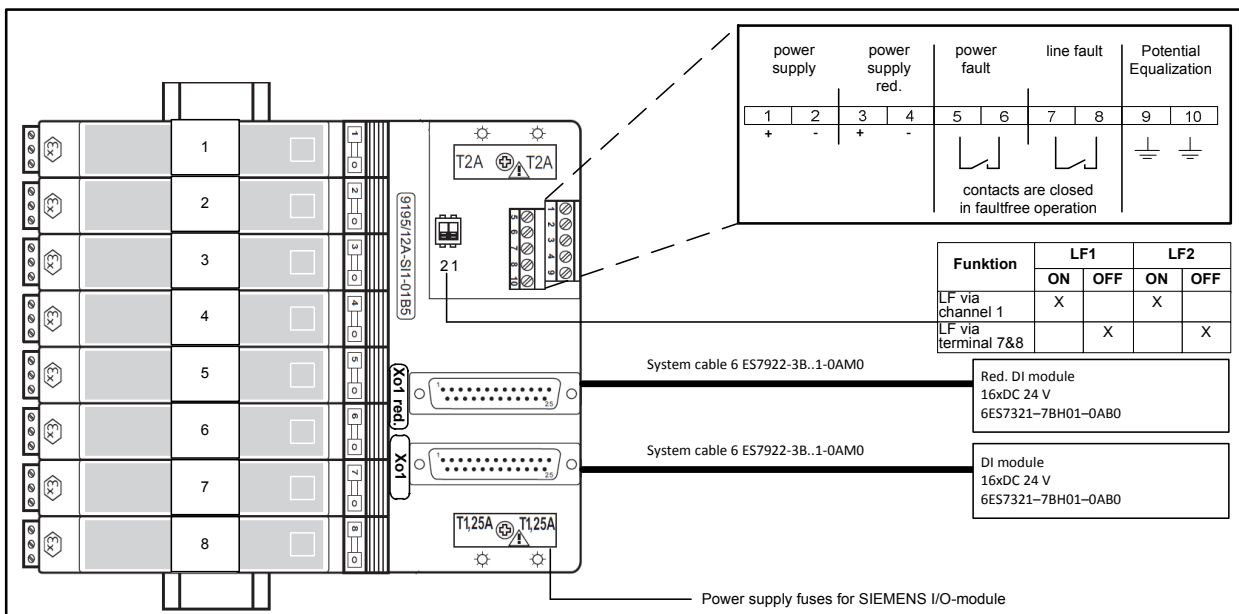


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Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.



System overview



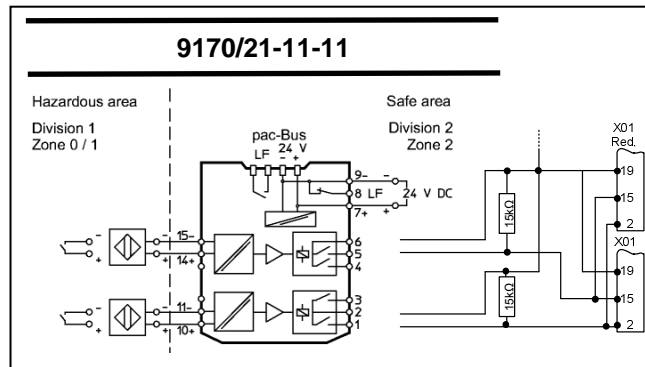
Selection table						
DCS manufacturer	I/O station				pac-Carrier	
	Distributed I/O system	I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS	ET 200M	6ES7321-7BH01-0AB0	6ES7922-3B..1-0AM0	16 x DI	8	9195/12A-S11-01B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U _N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see "signal loops")				
Number of channels		16				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 M pole for 6ES7922-3B..1-0AM0				
Number of channels		up to 16				
Fuse		2 x T 1,25 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Line fault switch LF1, LF2 "ON"		LF via first channel of pac- Carrier				
Line fault switch LF1, LF2 "OFF"		LF via terminal 7 & 8 of pac- Carrier				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx.320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

Switching repeater (DI)

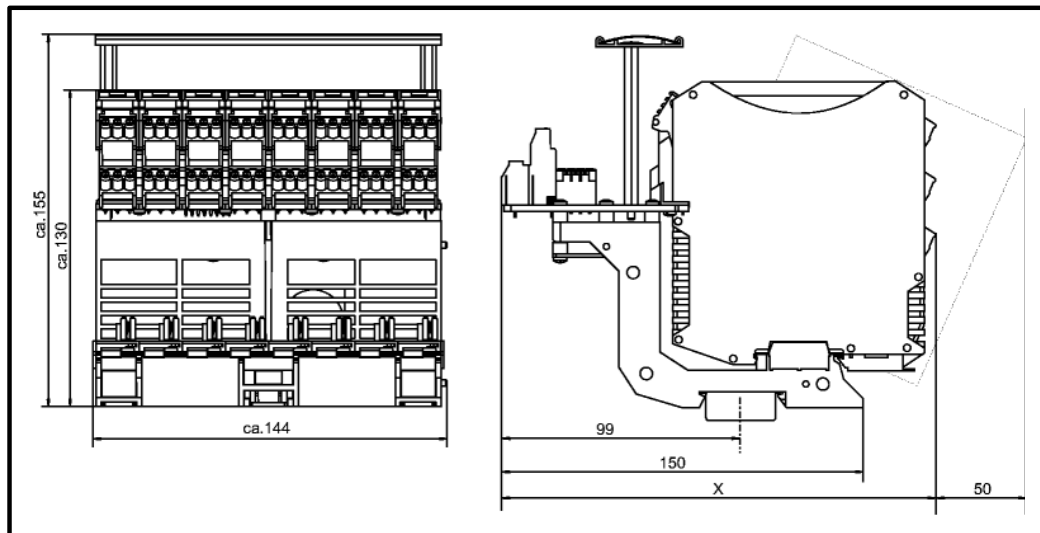
for NAMUR proximity switches and contacts
- relay output



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12471E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required. Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.



Connection list

For dual channel ISpac modules

SIEMENS Modul: 6ES7321-7BH01-0AB0 (16 x DI)

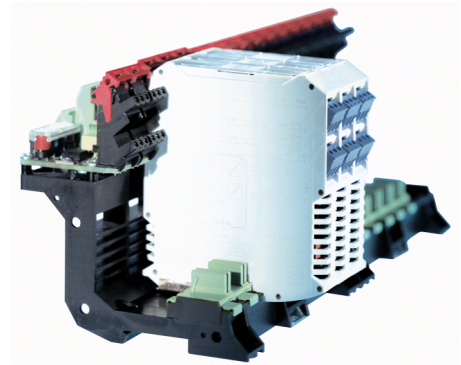
Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red. 1)		20 Pin connector	Input No.
0	10	+	1	+	19	10	0
	11	-		-	2	2	
1	14	+	1	+	19	10	1
	15	-		-	15	3	
2	10	+	2	+	19	10	2
	11	-		-	3	4	
3	14	+	2	+	19	10	3
	15	-		-	16	5	
4	10	+	3	+	19	10	4
	11	-		-	4	6	
5	14	+	3	+	19	10	5
	15	-		-	17	7	
6	10	+	4	+	19	10	6
	11	-		-	5	8	
7	14	+	4	+	19	10	7
	15	-		-	18	9	
8	10	+	5	+	8, 20	11	8
	11	-		-	21	12	
9	14	+	5	+	8, 20	11	9
	15	-		-	9	13	
10	10	+	6	+	8, 20	11	10
	11	-		-	22	14	
11	14	+	6	+	8, 20	11	11
	15	-		-	10	15	
12	10	+	7	+	8, 20	11	12
	11	-		-	23	16	
13	14	+	7	+	8, 20	11	13
	15	-		-	11	17	
14	10	+	8	+	8, 20	11	14
	11	-		-	24	18	
15	14	+	8	+	8, 20	11	15
	15	-		-	12	19	
connected to + 24 V DC				1		1	
				14			
connected to 0 V DC				13		20	
				25			

We reserve the right to change the technical data, weights, dimensions, designs and products without notice.
The illustration cannot be considered binding.

**pac-Carrier
Type 9195/21A-SI1-01B5**

For SIEMENS / ET 200M / 6ES7321-7BH01-0AB0

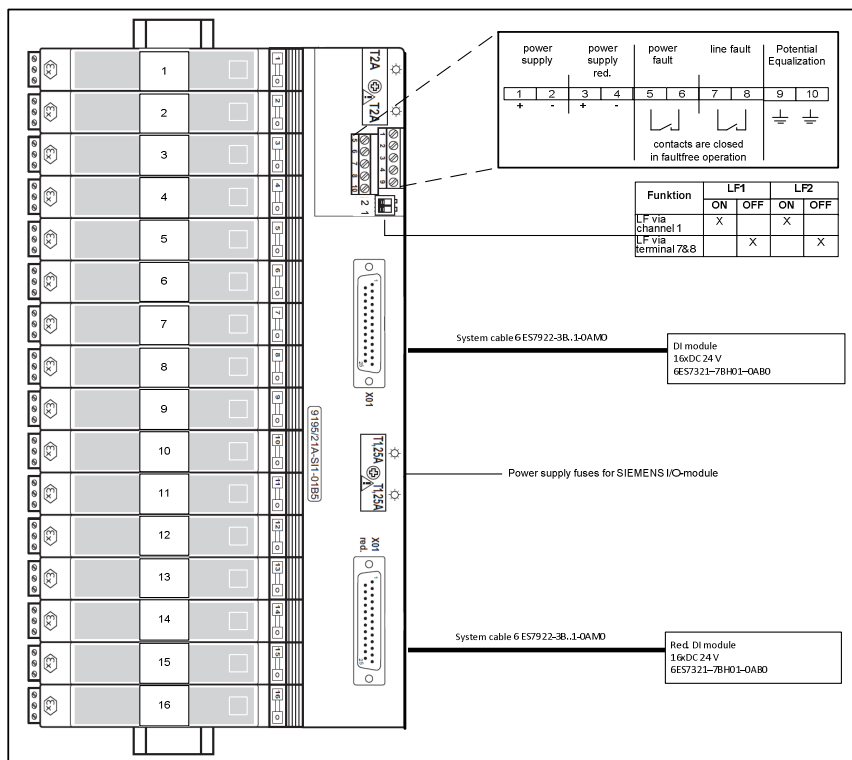
- Signal types: 16 x DI
- pac-Carrier for 16 modules, up to 16 signals
- ISpac isolator 9170/11-11-11 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET 200M
- LFD can be routed into the first channel on the pac-Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- 2 x T 1,25 A Fuse for power supply SIEMENS I/O-module
- Redundant power supply with fault signalization contact and exchangeable fuses
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non-conductive dust) and Div. 2



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Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview



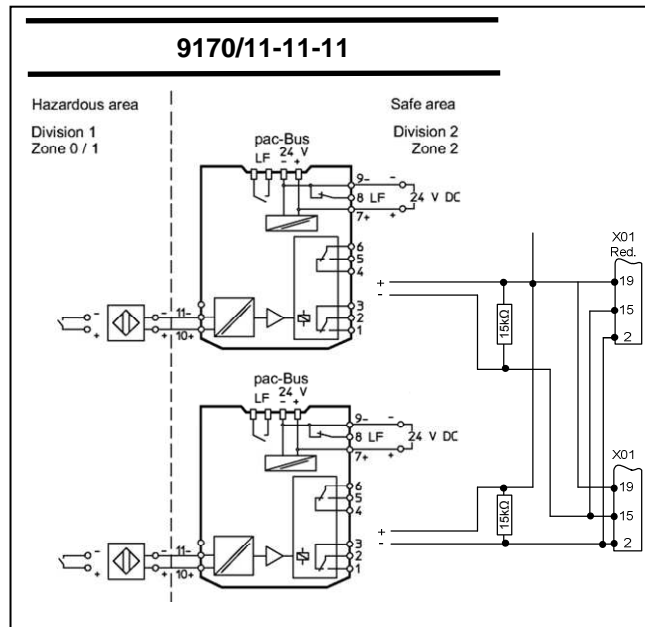
Selection table						
DCS manufacturer	I/O station				pac-Carrier	
	Distributed I/O system	I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS	ET 200M	6ES7321-7BH01-0AB0	6ES7922-3B..1-0AM0	16 x DI	16	9195/21A-S11-01B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		16				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 M pole for 6ES7922-3B..1-0AM0				
Number of channels		up to 16				
Fuse		2 x T 1,25 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Line fault switch LF1, LF2 “ON”		LF via first channel of pac- Carrier				
Line fault switch LF1, LF2 “OFF”		LF via terminal 7 & 8 of pac- Carrier				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx.320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops


The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

Switching repeater (DI)

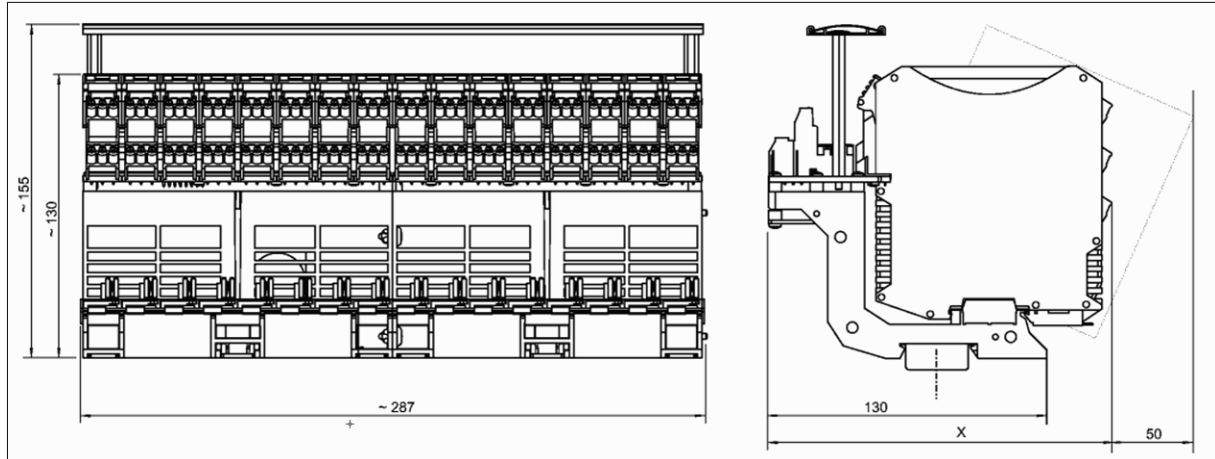
for NAMUR proximity switches and contacts
- relay output



Accessories and Spare Parts

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Dimension drawings (all dimensions in mm) - subject to alterations


12472E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required.
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Connection list

For single Channel ISpac modules
 SIEMENS Modul: 6ES7321-7BH01-0AB0 (16 x DI)

Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		20 Pin connector	Input No.
	10	11		+	-		
0	10	11	1	+	-	19	10
						2	2
1	10	11	2	+	-	19	10
						15	3
2	10	11	3	+	-	19	10
						3	4
3	10	11	4	+	-	19	10
						16	5
4	10	11	5	+	-	19	10
						4	6
5	10	11	6	+	-	19	10
						17	7
6	10	11	7	+	-	19	10
						5	8
7	10	11	8	+	-	19	10
						18	9
8	10	11	9	+	-	8, 20	11
						21	12
9	10	11	10	+	-	8, 20	11
						9	13
10	10	11	11	+	-	8, 20	11
						22	14
11	10	11	12	+	-	8, 20	11
						10	15
12	10	11	13	+	-	8, 20	11
						23	16
13	10	11	14	+	-	8, 20	11
						11	17
14	10	11	15	+	-	8, 20	11
						24	18
15	10	11	16	+	-	8, 20	11
						12	19
connected to + 24 V DC				1		1	
				14			
connected to 0 V DC				13		20	
				25			



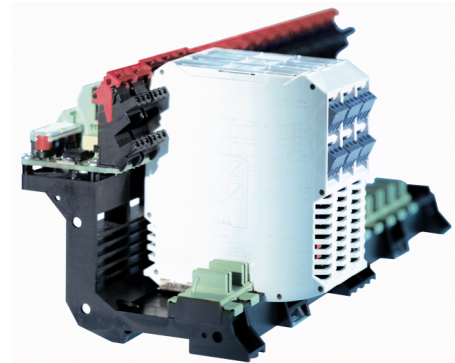
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**pac-Carrier
Type 9195/12A-SI1-02B5**

For SIEMENS / ET 200M / 6ES7321-1BH02-0AA0

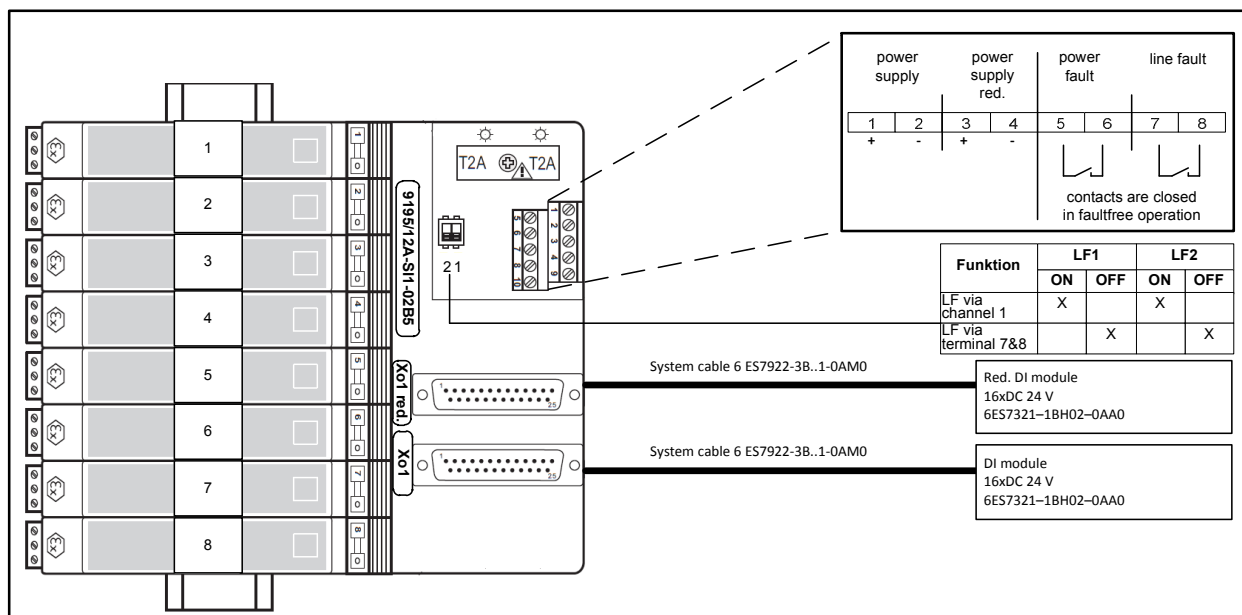
- Signal types: 16 x DI
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator 9170/21-11-11 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET 200M
- LFD can be routed into the first channel on the pac-Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- Redundant power supply with fault signalization contact and exchangeable fuses
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non-conductive dust) and Div. 2



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Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview



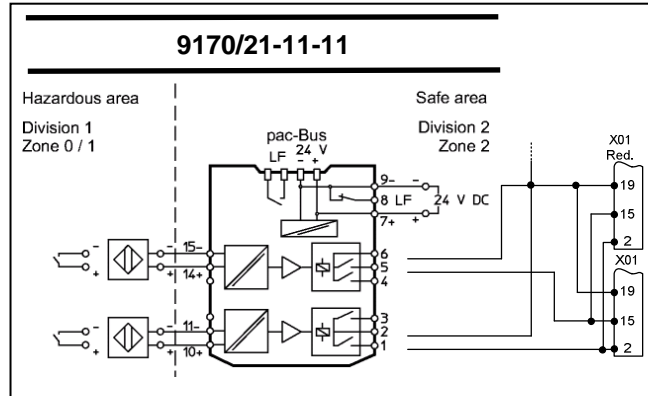
Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS	ET 200M	6ES7321-1BH02-0AA0	6ES7922-3B..1-0AM0	16 x DI	8	9195/12A-S11-02B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		16				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 M pole for 6ES7922-3B..1-0AM0				
Number of channels		up to 16				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Line fault switch LF1, LF2 “ON”		LF via first channel of pac- Carrier				
Line fault switch LF1, LF2 “OFF”		LF via terminal 7 & 8 of pac- Carrier				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤95 %				
Mechanical data						
Weight		approx.320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops


The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

Switching repeater (DI)

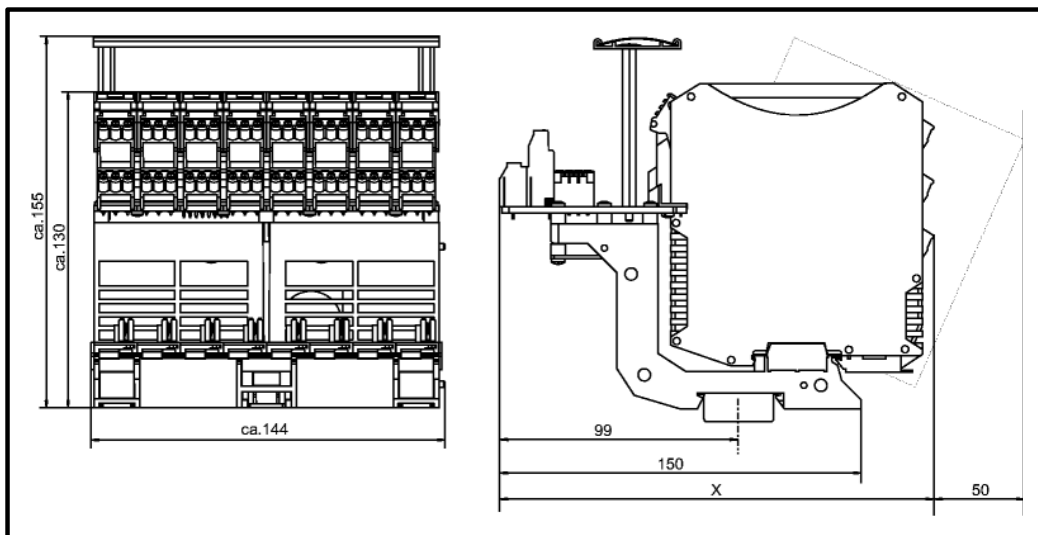
for NAMUR proximity switches and contacts
- relay output



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12471E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required. Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.



Connection list

For dual Channel ISpac modules

SIEMENS Modul: 6ES7321-1BH02-0AA0 (16 x DI)

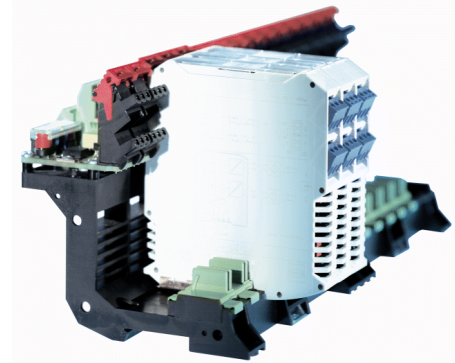
Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		20 Pin connector	Input No.
0	10	+	1	+	+ 24 V	2	0
	11	-		-	2		
1	14	+	1	+	+ 24 V	3	1
	15	-		-	15		
2	10	+	2	+	+ 24 V	4	2
	11	-		-	3		
3	14	+	2	+	+ 24 V	5	3
	15	-		-	16		
4	10	+	3	+	+ 24 V	6	4
	11	-		-	4		
5	14	+	3	+	+ 24 V	7	5
	15	-		-	17		
6	10	+	4	+	+ 24 V	8	6
	11	-		-	5		
7	14	+	4	+	+ 24 V	9	7
	15	-		-	18		
8	10	+	5	+	+ 24 V	12	8
	11	-		-	21		
9	14	+	5	+	+ 24 V	13	9
	15	-		-	9		
10	10	+	6	+	+ 24 V	14	10
	11	-		-	22		
11	14	+	6	+	+ 24 V	15	11
	15	-		-	10		
12	10	+	7	+	+ 24 V	16	12
	11	-		-	23		
13	14	+	7	+	+ 24 V	17	13
	15	-		-	11		
14	10	+	8	+	+ 24 V	18	14
	11	-		-	24		
15	14	+	8	+	+ 24 V	19	15
	15	-		-	12		
connected to 0 V DC					13	20	
					25		

We reserve the right to change the technical data, weights, dimensions, designs and products without notice.
The illustration cannot be considered binding.

**pac-Carrier
Type 9195/21A-SI1-02B5**

For SIEMENS / ET 200M / 6ES7321-1BH02-0AA0

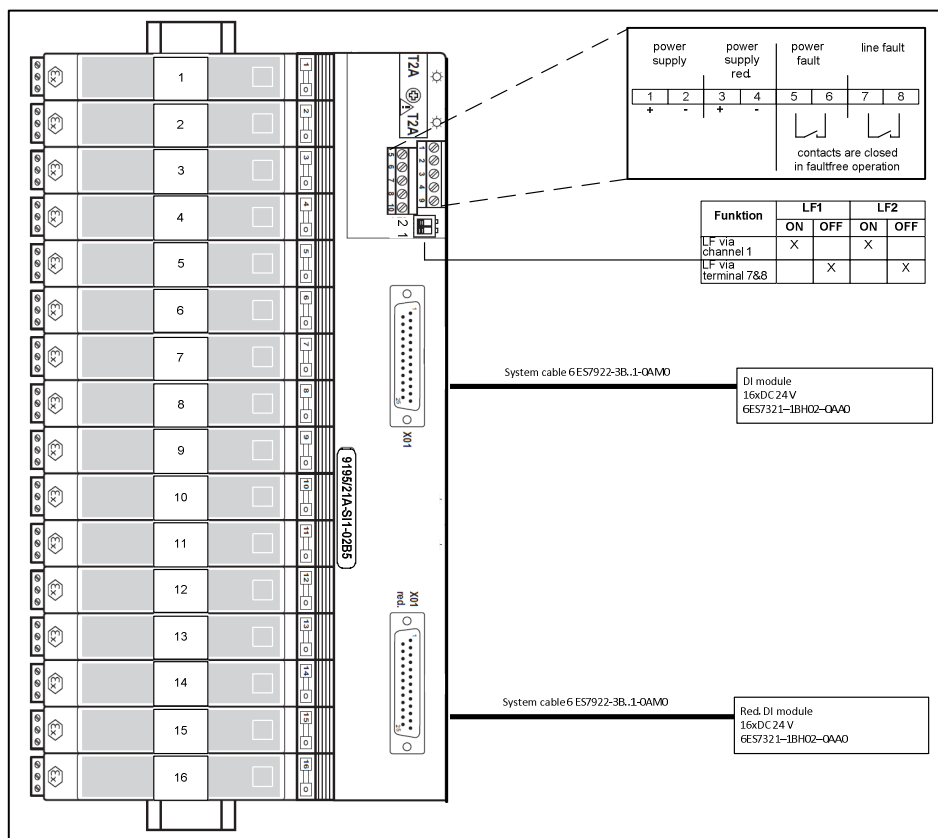
- Signal types: 16 x DI
- pac-Carrier for 16 modules, up to 16 signals
- ISpac isolator 9170/11-11-11 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET 200M
- LFD can be routed into the first channel on the pac- Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- Redundant power supply with fault signalization contact and exchangeable fuses
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non-conductive dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview



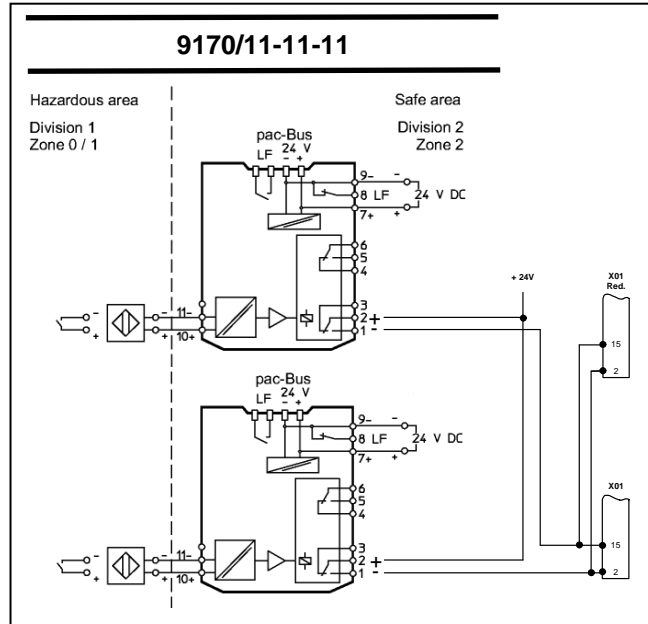
Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS	ET 200M	6ES7321-1BH02-0AA0	6ES7922-3B..1-0AM0	16 x DI	16	9195/21A-S11-02B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		16				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 M pole for 6ES7922-3B..1-0AM0				
Number of channels		up to 16				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Line fault switch LF1, LF2 “ON”		LF via first channel of pac- Carrier				
Line fault switch LF1, LF2 “OFF”		LF via terminal 7 & 8 of pac- Carrier				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx.320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

Switching repeater (DI)

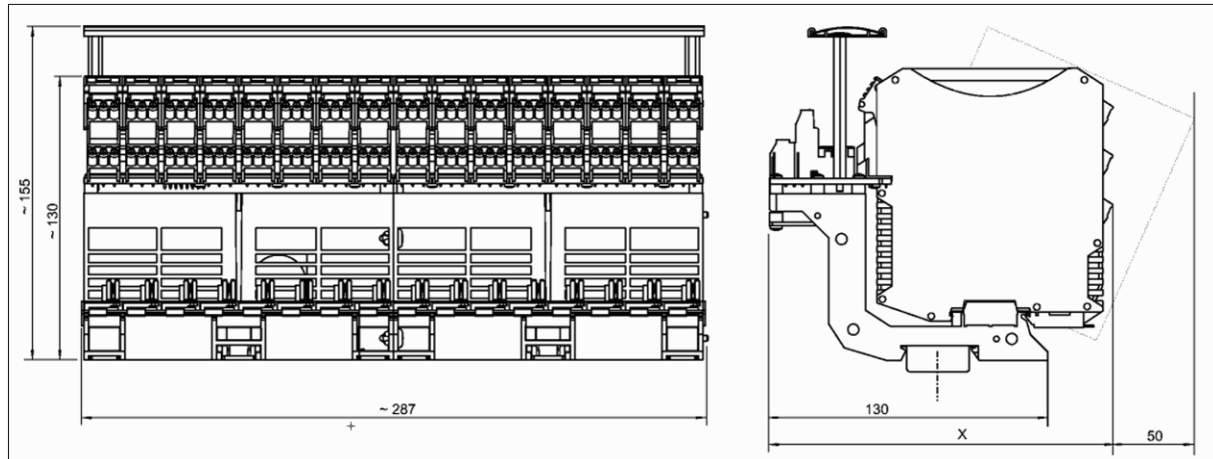
for NAMUR proximity switches and contacts
- relay output



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s



Dimension drawings (all dimensions in mm) - subject to alterations

12472E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required.
Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single Channel ISpac modules
 SIEMENS Modul: 6ES7321-1BH02-0AA0 (16 x DI)

Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		20 Pin connector	Input No.
0	10	+	1	+	+ 24 V		0
	11	-		-	2	2	
1	10	+	2	+	+ 24 V		1
	11	-		-	15	3	
2	10	+	3	+	+ 24 V		2
	11	-		-	3	4	
3	10	+	4	+	+ 24 V		3
	11	-		-	16	5	
4	10	+	5	+	+ 24 V		4
	11	-		-	4	6	
5	10	+	6	+	+ 24 V		5
	11	-		-	17	7	
6	10	+	7	+	+ 24 V		6
	11	-		-	5	8	
7	10	+	8	+	+ 24 V		7
	11	-		-	18	9	
8	10	+	9	+	+ 24 V		8
	11	-		-	21	12	
9	10	+	10	+	+ 24 V		9
	11	-		-	9	13	
10	10	+	11	+	+ 24 V		10
	11	-		-	22	14	
11	10	+	12	+	+ 24 V		11
	11	-		-	10	15	
12	10	+	13	+	+ 24 V		12
	11	-		-	23	16	
13	10	+	14	+	+ 24 V		13
	11	-		-	11	17	
14	10	+	15	+	+ 24 V		14
	11	-		-	24	18	
15	10	+	16	+	+ 24 V		15
	11	-		-	12	19	
connected to 0 V DC					13	20	
					25		



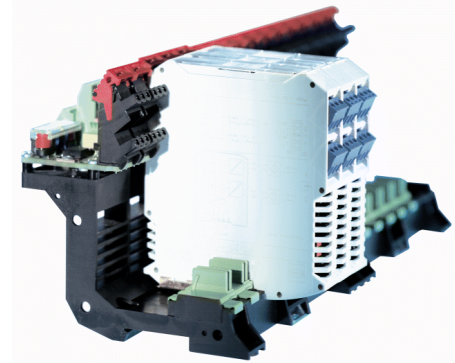
We reserve the right to change the technical data, weights, dimensions, designs and products without notice.
 The illustration cannot be considered binding.



**pac-Carrier
Type 9195/12A-SI1-03B4**

For SIEMENS / ET 200M / 6ES7322-8BH10-0AB0

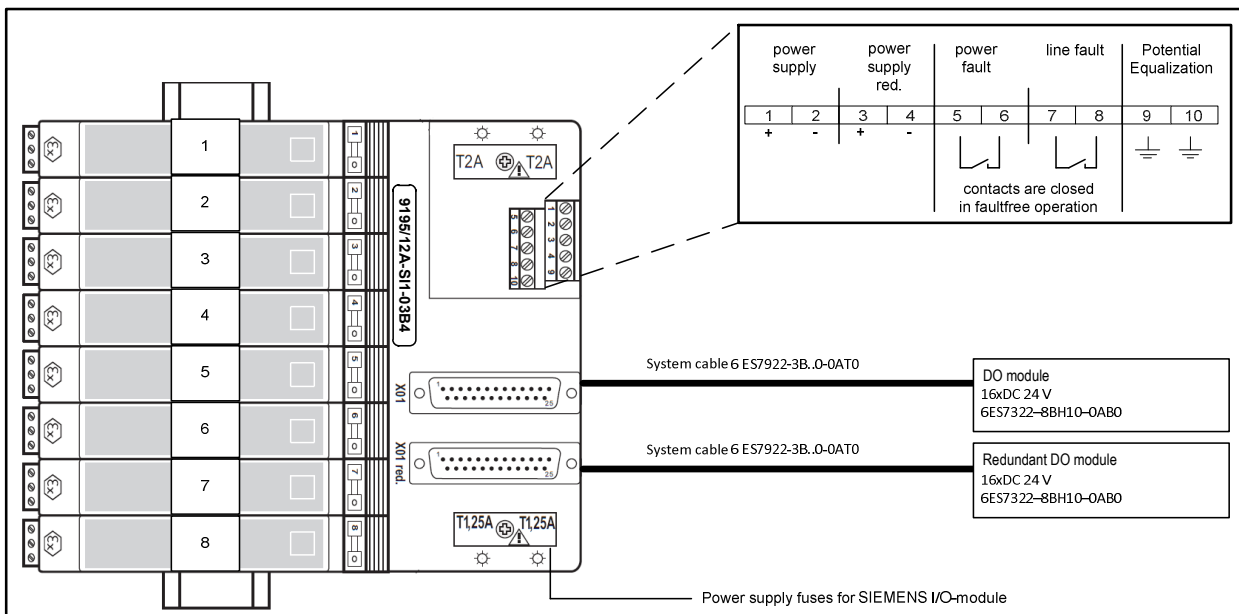
- Signal types: 16 x DO
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator 9176/20-1.-00 can be used
- Customized system cable type 6ES7922-3B..0-0AT0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- 2 x T 1,25 A Fuse for power supply SIEMENS I/O-module
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2



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Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview



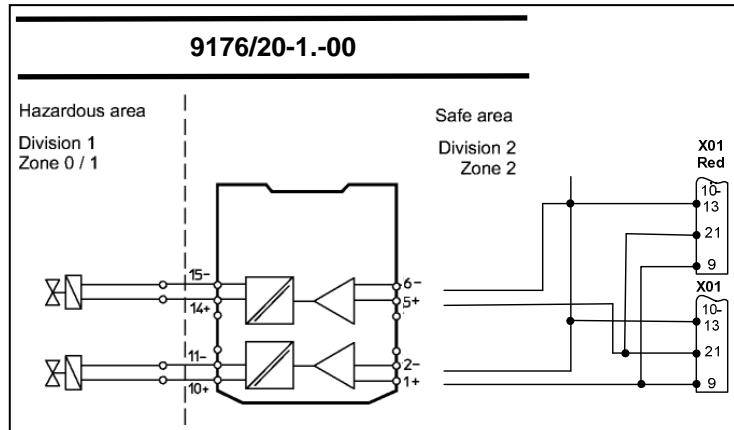
Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7322-8BH10-0AB0	6ES7922-3B..0-0AT0	16 x DO	8	9195/12A-S11-03B4
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		16				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 FM pole for 6ES7922-3B..0-0AT0				
Number of channels		up to 16				
Fuse		2 x T 1,25 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops


The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

Digital output (DO)

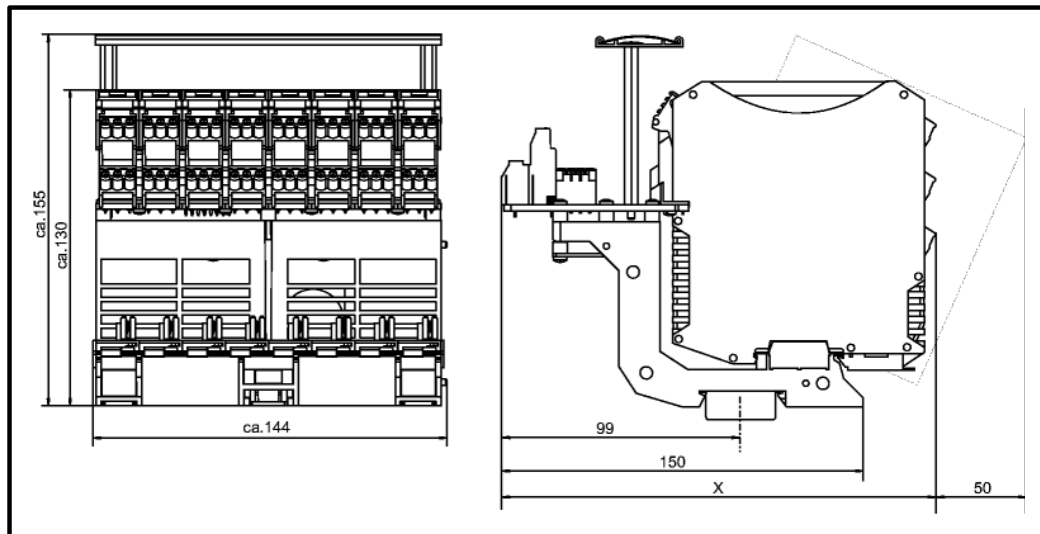
for solenoid valves and indicators
- loop powered



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s



Dimension drawings (all dimensions in mm) - subject to alterations

12471E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required.
Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For dual Channel ISpac modules
 SIEMENS Modul: 6ES7322-8BH10-0AB0 (16 x DO)

Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		40 Pin connector	Output No.
0	10	+	1	+	9	2	0
	11	-		-	13	10	
1	14	+	1	+	21	4	1
	15	-		-	13	10	
2	10	+	2	+	8	6	2
	11	-		-	13	10	
3	14	+	2	+	20	8	3
	15	-		-	13	10	
4	10	+	3	+	7	12	4
	11	-		-	12	20	
5	14	+	3	+	19	14	5
	15	-		-	12	20	
6	10	+	4	+	6	16	6
	11	-		-	12	20	
7	14	+	4	+	18	18	7
	15	-		-	12	20	
8	10	+	5	+	5	22	8
	11	-		-	11	30	
9	14	+	5	+	17	24	9
	15	-		-	11	30	
10	10	+	6	+	4	26	10
	11	-		-	11	30	
11	14	+	6	+	16	28	11
	15	-		-	11	30	
12	10	+	7	+	3	32	12
	11	-		-	10	40	
13	14	+	7	+	15	34	13
	15	-		-	10	40	
14	10	+	8	+	2	36	14
	11	-		-	10	40	
15	14	+	8	+	14	38	15
	15	-		-	10	40	
Connected to + 24 V DC					22	31	
					23	21	
					24	11	
					25	1	
Connected to 0 V DC					10	40	
					11	30	
					12	20	
					13	10	

We reserve the right to change the technical data, weights, dimensions, designs and products without notice.
 The illustration cannot be considered binding.

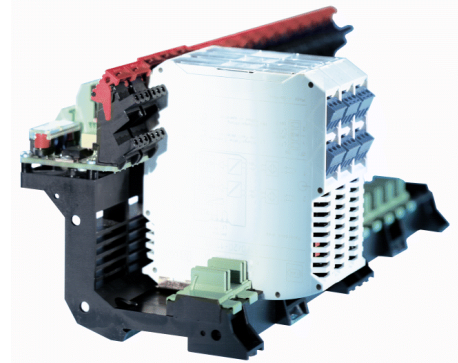




**pac-Carrier
Type 9195/21A-S11-03B4**

For SIEMENS / ET 200M / 6ES7322-8BH10-0AB0

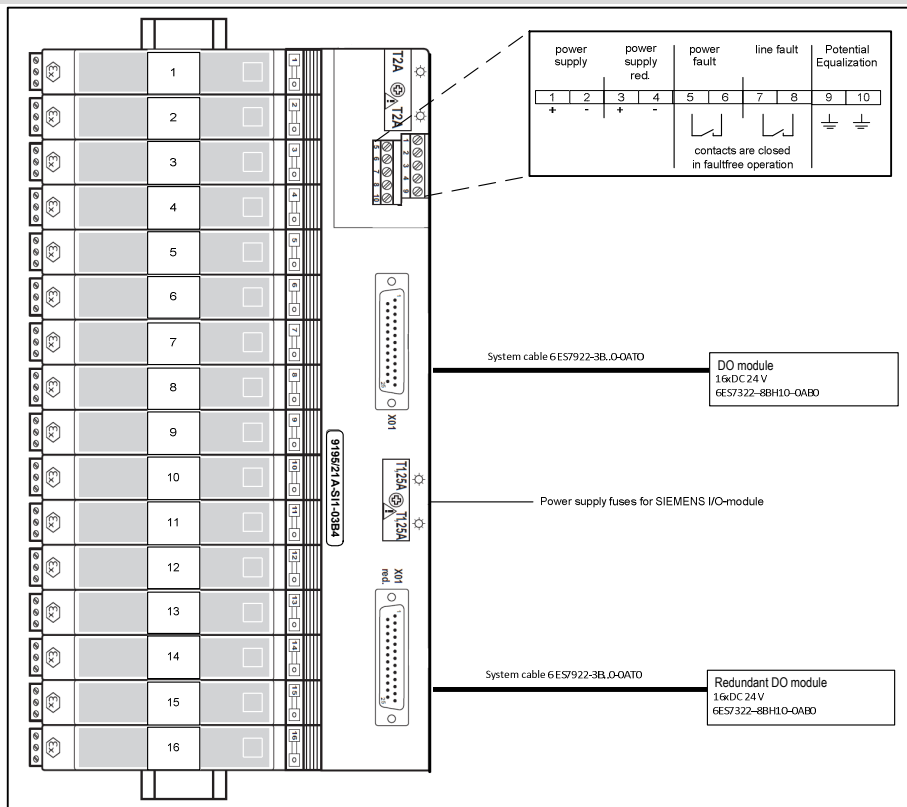
- Signal types: 16 x DO
- pac-Carrier for 16 modules, up to 16 signals
- ISpac isolator 9176/10-1.-00 can be used
- Customized system cable type 6ES7922-3B..0-0AT0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- 2 x T 1,25 A Fuse for power supply SIEMENS I/O-module
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview



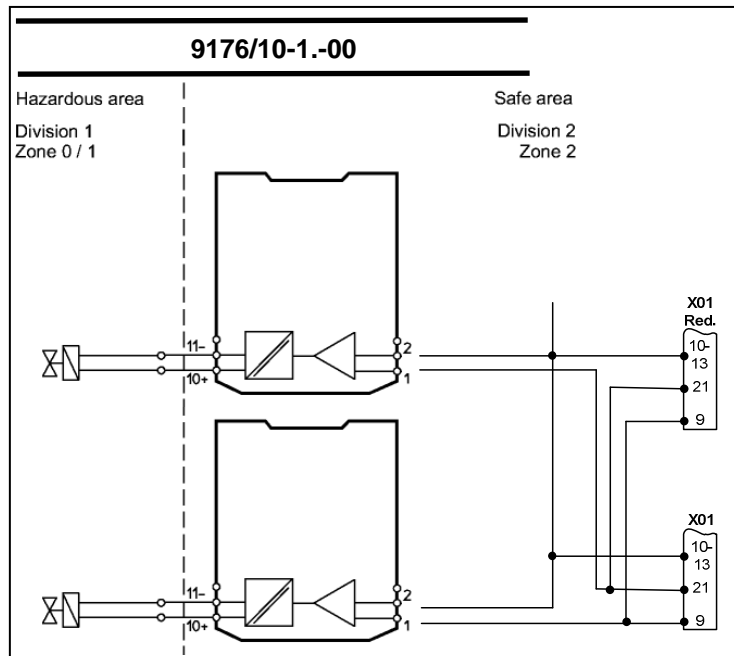
Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7322-8BH10-0AB0	6ES7922-3B..0-0AT0	16 x DO	16	9195/21A-S11-03B4
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		Ⓔ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		16				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 FM pole for 6ES7922-3B..0-0AT0				
Number of channels		up to 16				
Fuse		2 x T 1,25 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops


The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

Digital output (DO)

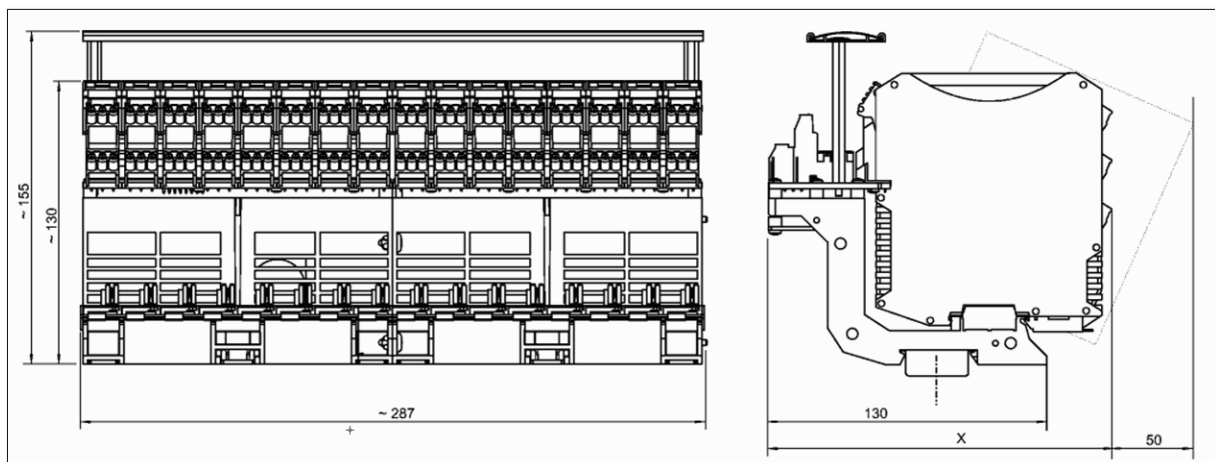
for solenoid valves and indicators
- loop powered



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12472E00



	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx.50 mm is required.
Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single channel ISpac modules

SIEMENS Modul: 6ES7322-8BH10-0AB0 (DO 16xDC 24 V)

Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		40 Pin connector	Output No.
0	10	+	1	+	9	2	0
	11	-		-	13		
1	10	+	2	+	21	4	1
	11	-		-	13		
2	10	+	3	+	8	6	2
	11	-		-	13		
3	10	+	4	+	20	8	3
	11	-		-	13		
4	10	+	5	+	7	12	4
	11	-		-	12		
5	10	+	6	+	19	14	5
	11	-		-	12		
6	10	+	7	+	6	16	6
	11	-		-	12		
7	10	+	8	+	18	18	7
	11	-		-	12		
8	10	+	9	+	5	22	8
	11	-		-	11		
9	10	+	10	+	17	24	9
	11	-		-	11		
10	10	+	11	+	4	26	10
	11	-		-	11		
11	10	+	12	+	16	28	11
	11	-		-	11		
12	10	+	13	+	3	32	12
	11	-		-	10		
13	10	+	14	+	15	34	13
	11	-		-	10		
14	10	+	15	+	2	36	14
	11	-		-	10		
15	10	+	16	+	14	38	15
	11	-		-	10		
Connected to + 24 V DC					22	31	
					23	21	
					24	11	
					25	1	
Connected to 0 V DC					10	40	
					11	30	
					12	20	
					13	10	

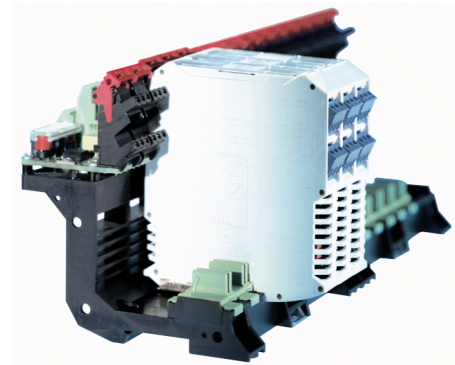
We reserve the right to change the technical data, weights, dimensions, designs and products without notice.
The illustration cannot be considered binding.



**pac-Carrier
Type 9195/11H-SI1-04B6**

For SIEMENS / ET 200M / 6ES7331-7NF00-0AB0

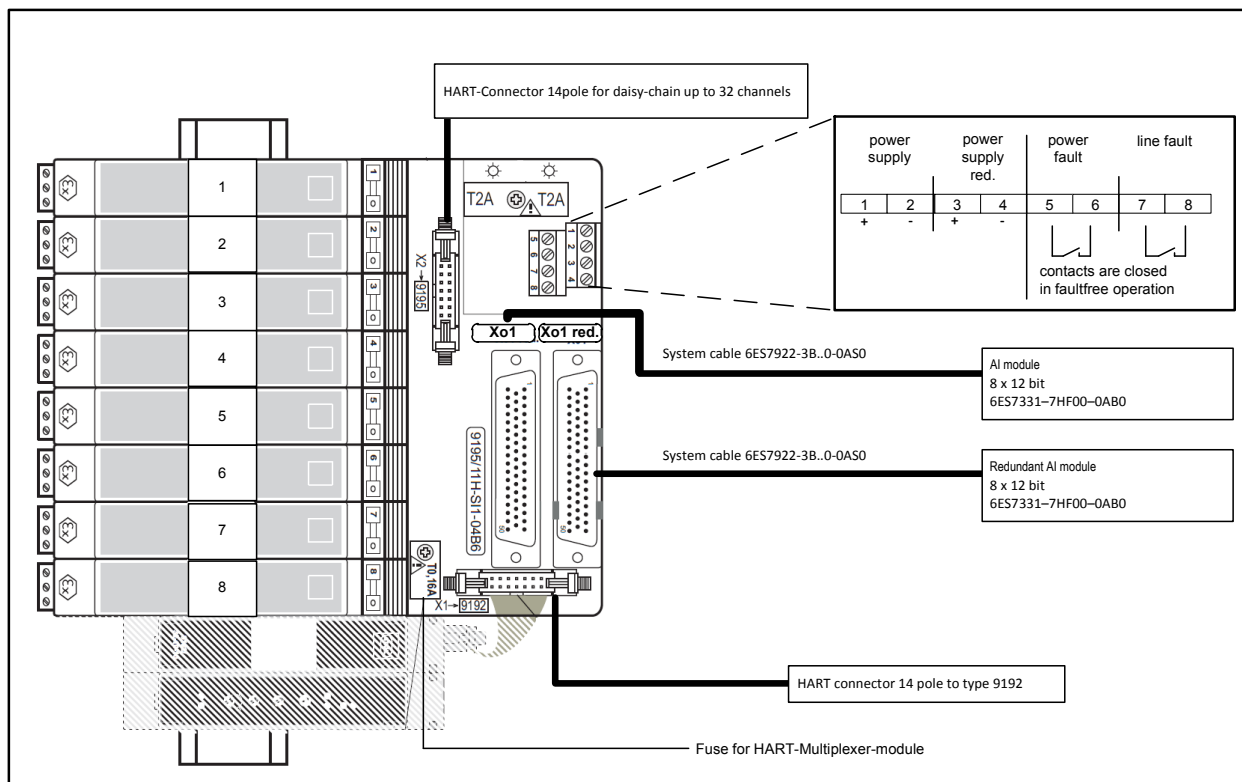
- Signal types: 8 x AI
- pac-Carrier for 8 modules, up to 8 signals
- ISpac isolator 9160/13-11-10, 9163/13-11-10, 9182/10-51-11 and 9146/10-11-12 can be used
- Customized system cable type 6ES7922-3B..0-0AS0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview

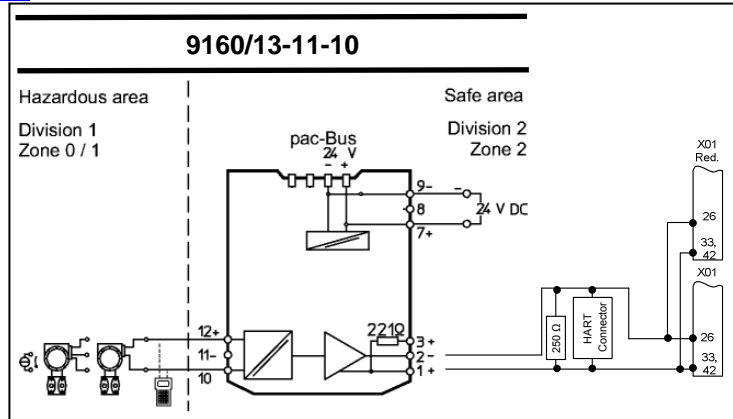


Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7331-7NF00-0AB0	6ES7922-3B..0-0AS0	8 x AI	8	9195/11H-S11-04B6
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		Ⓔ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U _N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		8				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 50 M pole for 6ES7922-3B..0-0AS0				
Number of channels		up to 8				
HART interface						
Connector X1		HART connector 14 pole (to HART Multiplexer type 9192/32 or to first pac- Carrier)				
Connector X2		HART connector 14 pole optional to second pac- Carrier				
Fuse		1 x T ,16 A; exchangeable, for power supply HART Multiplexer 9192				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

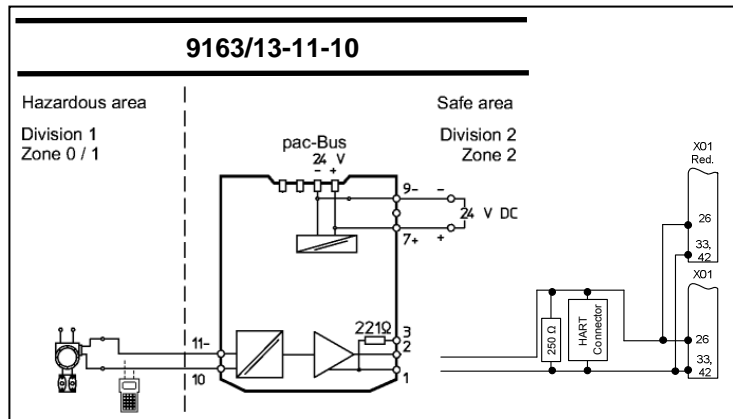
Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info

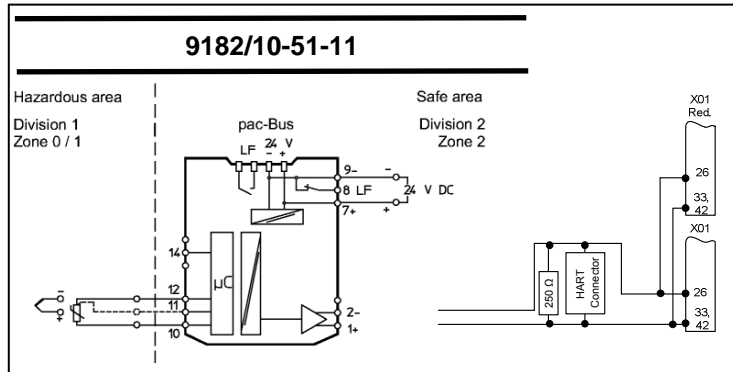
Transmitter supply unit (AI)
for 2-, 3-wire transmitter and mA sources
for 2-wire transmitter with HART



Isolating repeater (AI)
for 4-wire transmitter and mA-sources
bi-directional HART communication

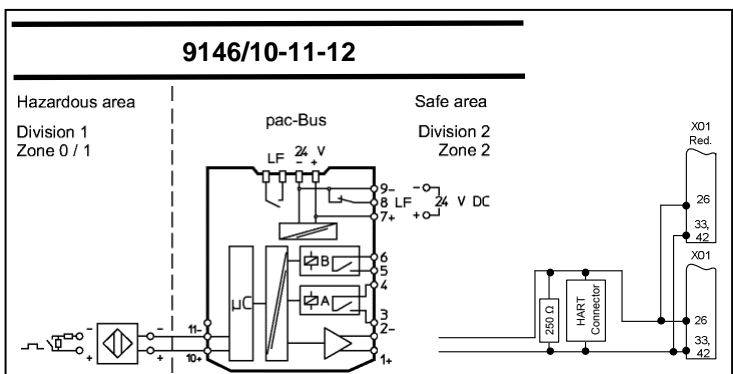


Temperature transmitter (AI)
for resistance thermometer,
thermocouple and RTD
(Configuration by means of DIP
switches or ISpac Wizard software)




*) Suitable for 4-wire (Pins: 10, 11, 12, and 14).
The connection of two sensors in 4-wire scheme requires an additional external terminal.

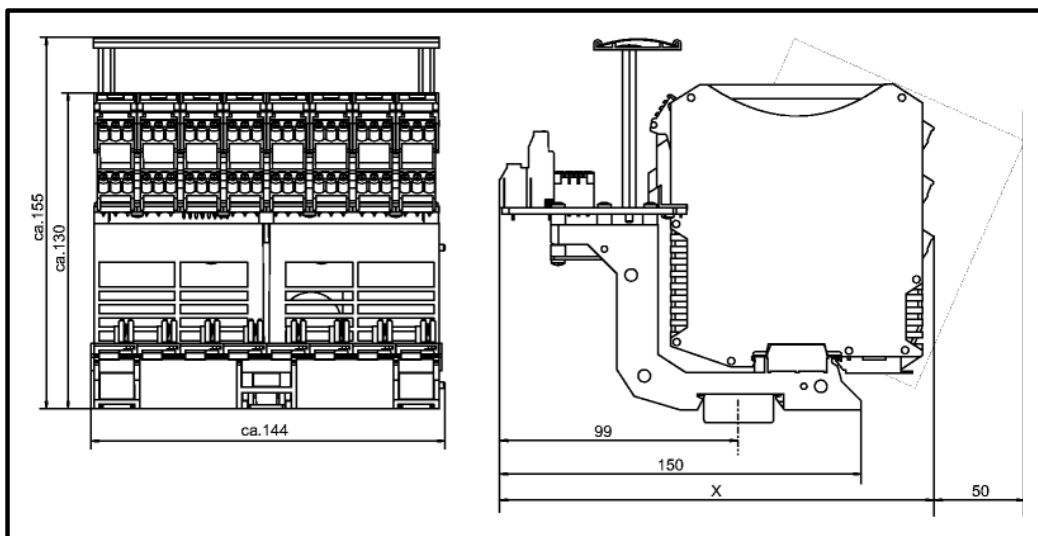
Frequency transmitter
The frequency transmitter allows
to monitor the speed of rotating devices
in the hazardous area.



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12471E00



	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required. Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single Channel ISpac modules
 SIEMENS Modul: 6ES7331-7NF00-0AB0 (8 x AI)

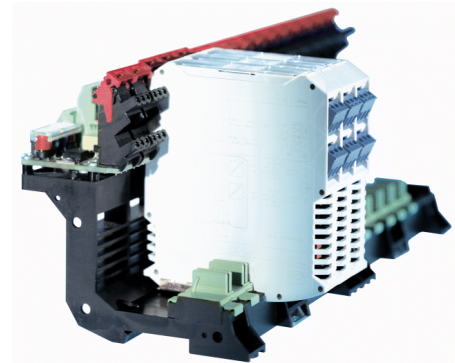
Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		40 Pin connector	Input No.
	10	11		+	-		
0	10	11	1	+	33, 42	22	0
				-	26	23	
1	10	11	2	+	10	24	1
				-	43	25	
2	10	11	3	+	27	26	2
				-	11	27	
3	10	11	4	+	44	28	3
				-	28	29	
4	10	11	5	+	29	32	4
				-	46	33	
5	10	11	6	+	30	34	5
				-	14	35	
6	10	11	7	+	47	36	6
				-	31	37	
7	10	11	8	+	15	38	7
				-	48	39	



**pac-Carrier
Type 9195/11H-SI1-05B6**

For SIEMENS / ET 200M / 6ES7331-7NF10-0AB0

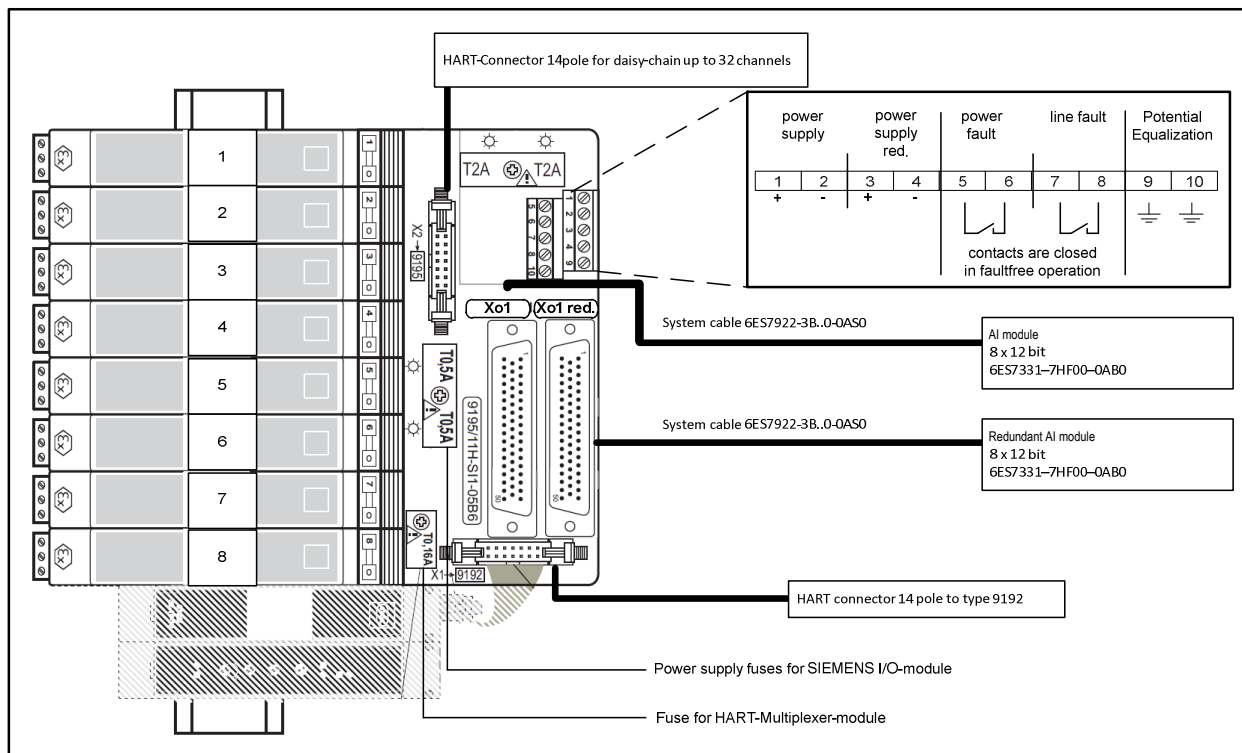
- Signal types: 8 x AI
- pac-Carrier for 8 modules, up to 8 signals
- ISpac isolator 9160/13-11-10, 9163/13-11-10, 9182/10-51-11 and 9146/10-11-12 can be used
- Customized system cable type 6ES7922-3B..0-0AS0 to ET 200M
- 2 x T 0,5 A Fuse for power supply SIEMENS I/O-module
- Redundant power supply with fault signalization contact and exchangeable fuses
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview

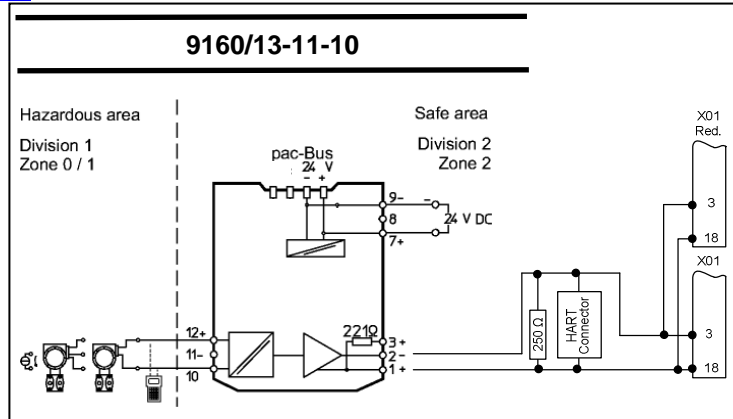


Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7331-7NF10-0AB0	6ES7922-3B..0-0AS0	8 x AI	8	9195/11H-S11-05B6
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		Ⓔ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		8				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 50 M pole for 6ES7922-3B..0-0AS0				
Number of channels		up to 8				
Fuse		2 x T 0,5 A; exchangeable, for power supply SIEMENS I/O-module				
HART interface						
Connector X1		HART connector 14 pole (to HART Multiplexer type 9192/32 or to first pac- Carrier)				
Connector X2		HART connector 14 pole optional to second pac- Carrier				
Fuse		1 x T 0,16 A; exchangeable, for power supply HART Multiplexer 9192				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

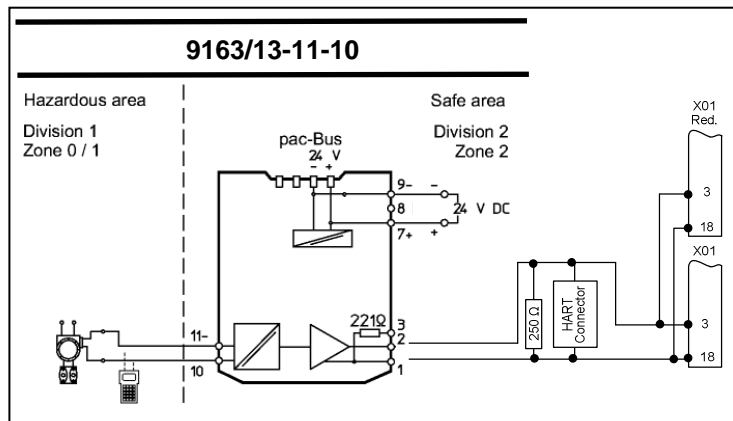
Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

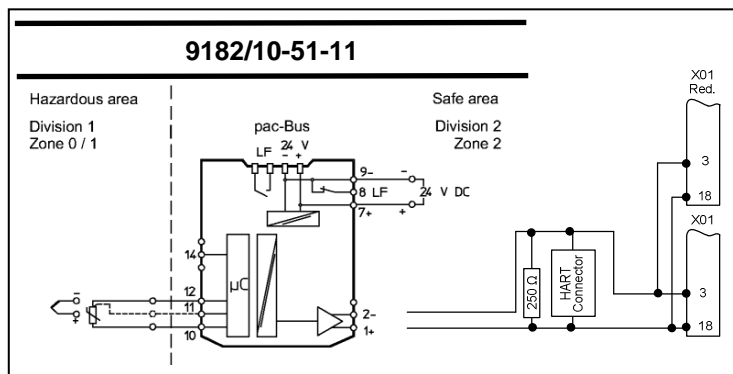
Transmitter supply unit (AI)
for 2-, 3-wire transmitter and mA-sources
for 2-wire transmitter with HART



Isolating repeater (AI)
for 4-wire transmitter and mA-sources
bi-directional HART communication

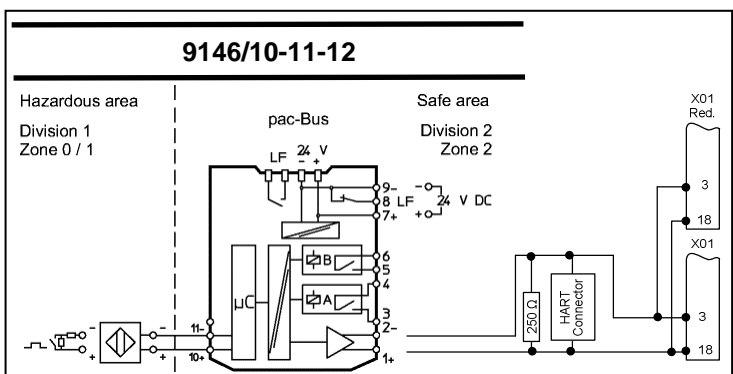


Temperature transmitter (AI)
for resistance thermometer,
thermocouple and RTD
(Configuration by means of DIP
switches or ISpac Wizard software)




*) Suitable for 4-wire (Pins: 10, 11, 12, and 14).
The connection of two sensors in 4-wire scheme requires an additional external terminal.

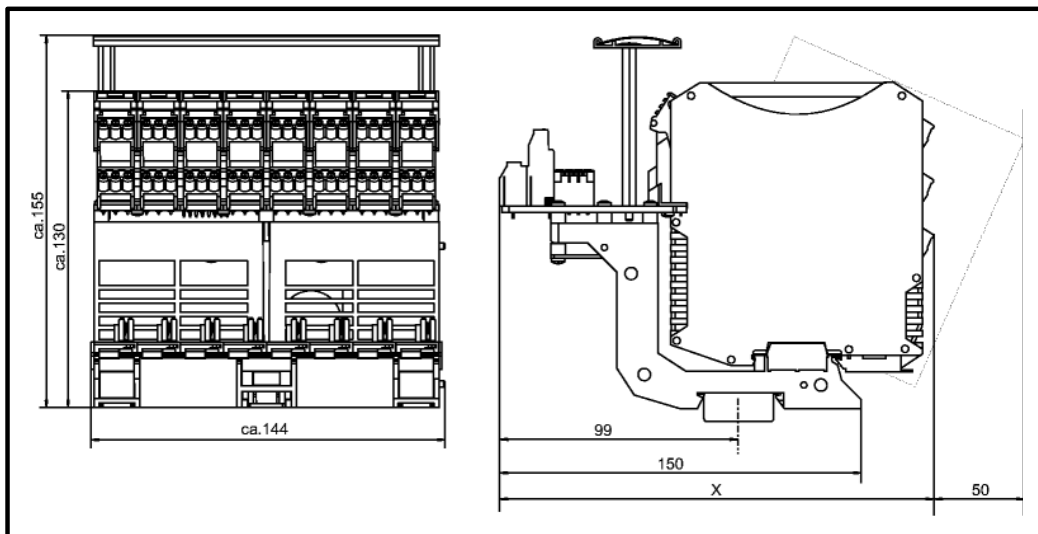
Frequency transmitter
The frequency transmitter allows
to monitor the speed of rotating
devices in the hazardous area



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 <p>06314E00</p>	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12471E00



	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required. Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single Channel ISpac modules
 SIEMENS Modul: 6ES7331-7NF10-0AB0 (8 x AI)

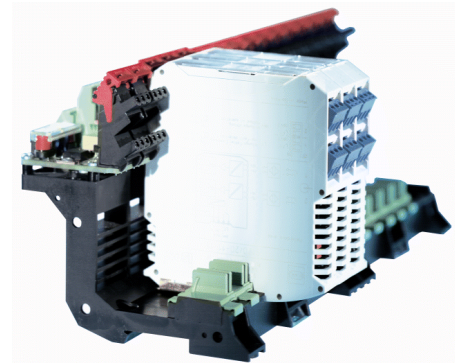
Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		40 Pin connector	Input No.
0	10	+	1	+	18	3	0
	11	-		-	3	6	
1	10	+	2	+	36	7	1
	11	-		-	21, 37	10	
2	10	+	3	+	5, 6	11	2
	11	-		-	39	14	
3	10	+	4	+	23	15	3
	11	-		-	24	18	
4	10	+	5	+	26	23	4
	11	-		-	27	26	
5	10	+	6	+	11	27	5
	11	-		-	12, 13	30	
6	10	+	7	+	45	31	6
	11	-		-	30	34	
7	10	+	8	+	14	35	7
	11	-		-	15	38	
connected to +24 V DC					9	21	
					49		
connected to 0 V DC					16	40	
					17		
					32		



**pac-Carrier
Type 9195/11A-SI1-06B5**

For SIEMENS / ET 200M / 6ES7331-7TF01-0AB0

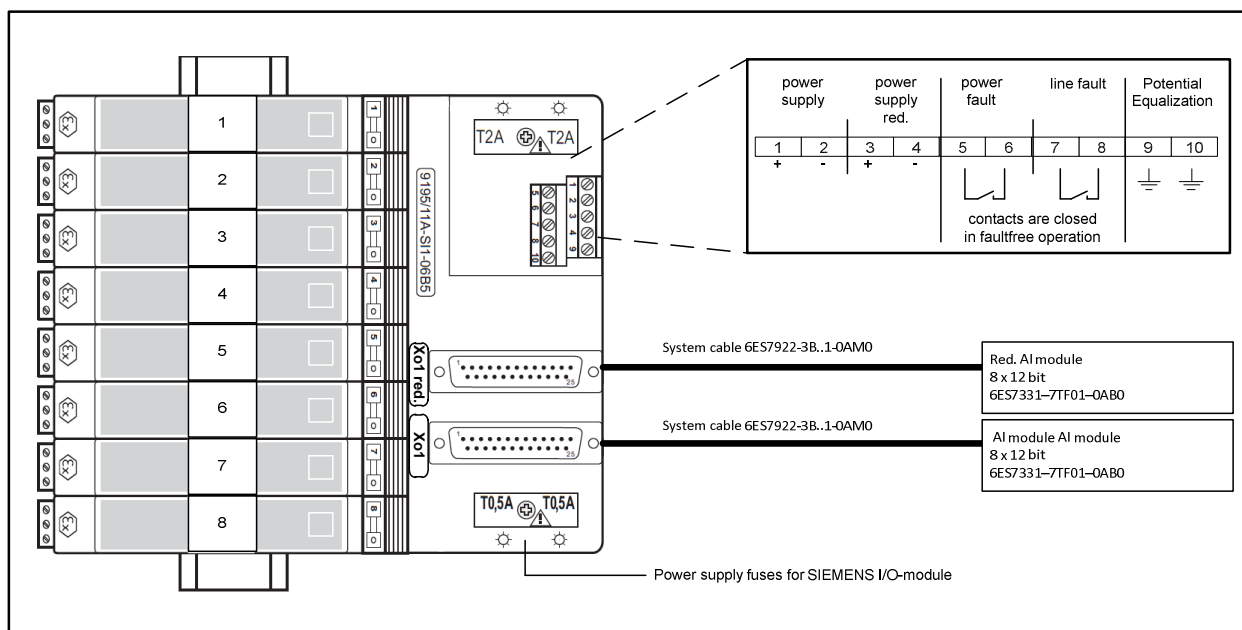
- Signal types: 8 x AI
- pac-Carrier for 8 modules, up to 8 signals
- ISpac isolator 9160/13-11-10, 9163/13-11-10, 9182/10-51-11 and 9146/10-11-12 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- 2 x T 0,5 A Fuse for power supply SIEMENS I/O-module
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview

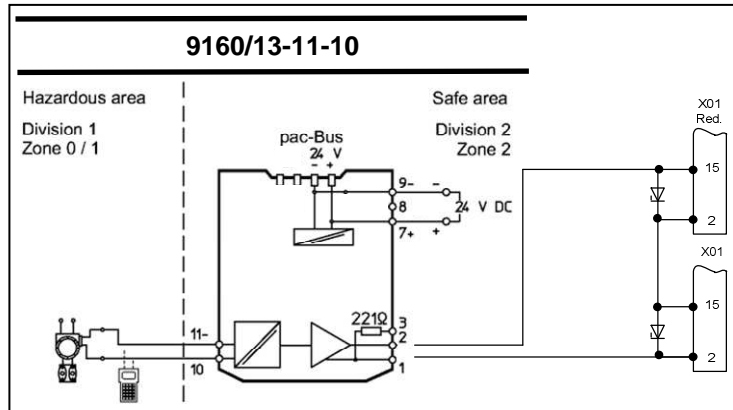


Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7331-7TF01-0AB0	6ES7922-3B..1-0AM0	8 x AI	8	9195/11H-S11-06B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		8				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 M pole for 6ES7922-3B..1-0AM0				
Number of channels		up to 8				
Fuse		2 x T 0,5 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

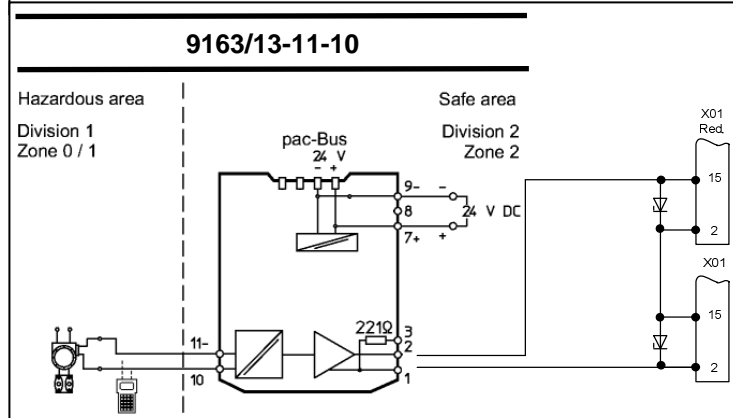
Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

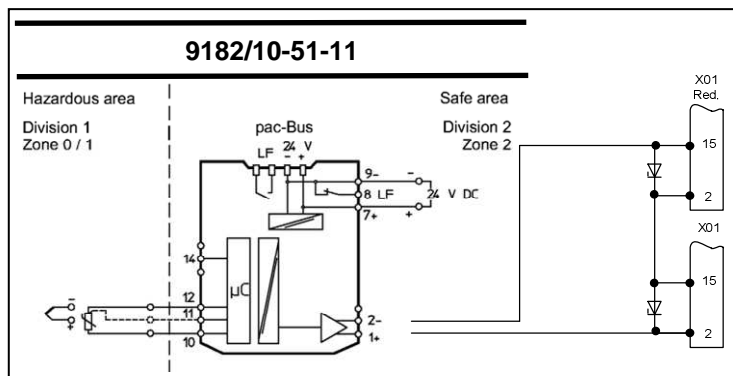
Transmitter supply unit (AI)
for 2-, 3-wire transmitter and mA sources
for 2-wire transmitter with HART



Isolating repeater (AI)
for 4-wire transmitter and mA-sources
bi-directional HART communication

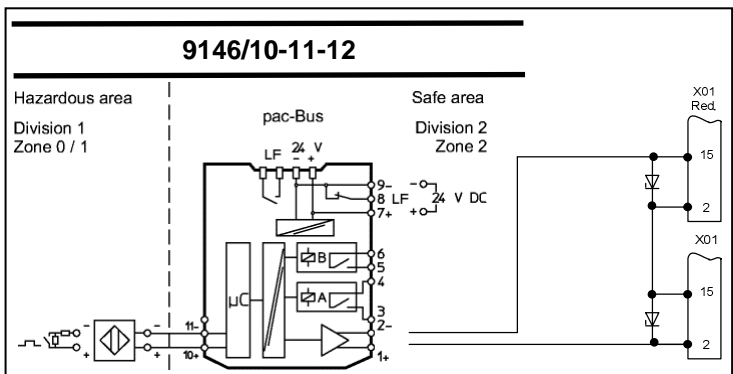


Temperature transmitter (AI)
for resistance thermometer,
thermocouple and RTD
(Configuration by means of DIP
switches or ISpac Wizard software)




*) Suitable for 4-wire (Pins: 10, 11, 12, and 14).
The connection of two sensors in 4-wire scheme requires an additional external terminal.

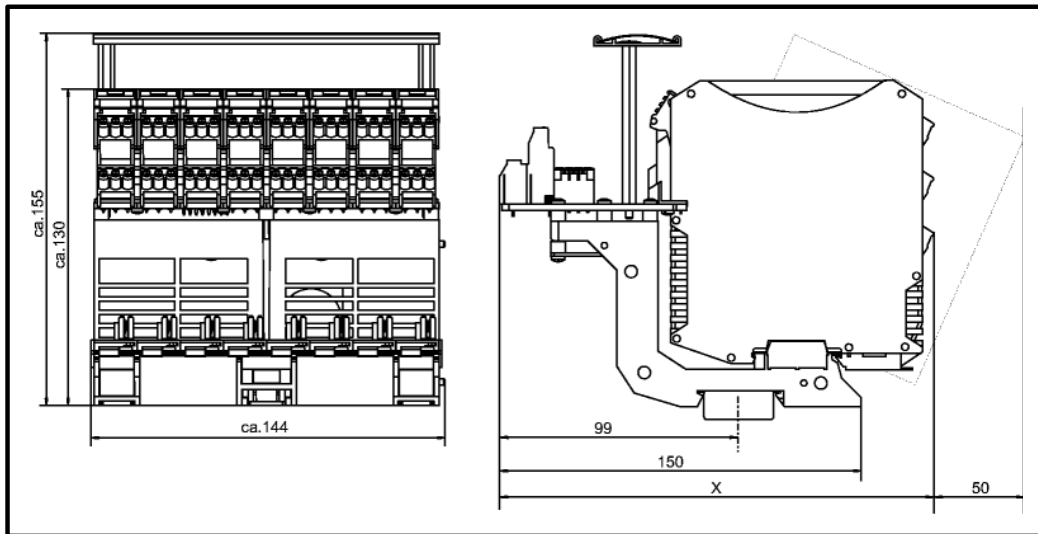
Frequency transmitter (AI)
The frequency transmitter allows
to monitor the speed of rotating
devices in the hazardous area



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12471E00



	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required. Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single channel ISpac modules

SIEMENS Modul: 6ES7331-7NF01-0AB0 (AI 0/4-20 mA HART)

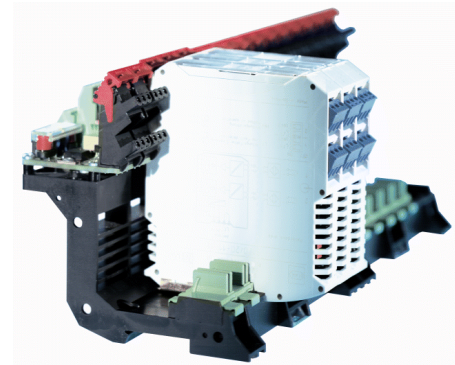
Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		20 Pin connector	Input No.
	10	11		+	-		
0	10	11	1	+	-	2	3
1	10	11	2	+	-	4	5
2	10	11	3	+	-	6	7
3	10	11	4	+	-	8	9
4	10	11	5	+	-	12	13
5	10	11	6	+	-	14	15
6	10	11	7	+	-	16	17
7	10	11	8	+	-	18	19
Connected to + 24 V DC						1	
Connected to 0 V DC						20	



**pac-Carrier
9195/12A-SI2-06B5**

For SIEMENS / ET 200M / 6ES7 331-7TF01-0AB0

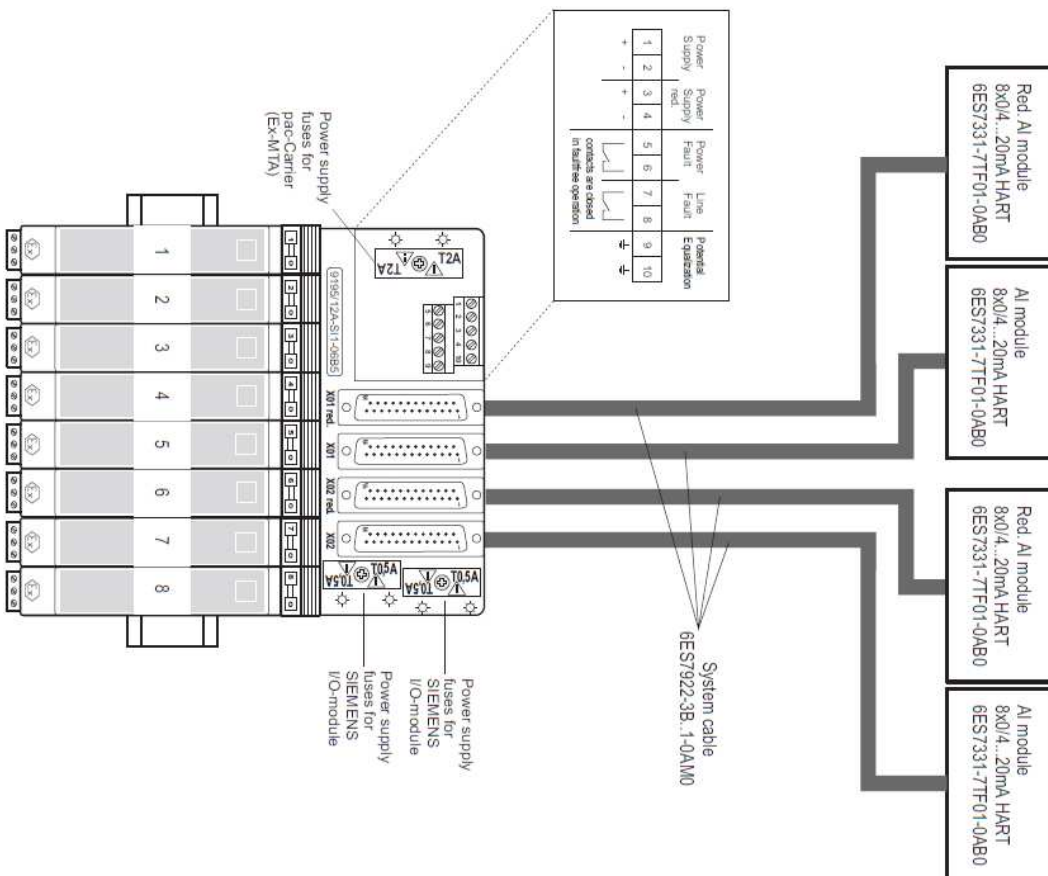
- Signal types: 16 x AI
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator 9160/23-11-10, 9160/23-11-10, 9163/23-11-10 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductive dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET200M modular I/O station via system specific connection boards and system cables.

System overview

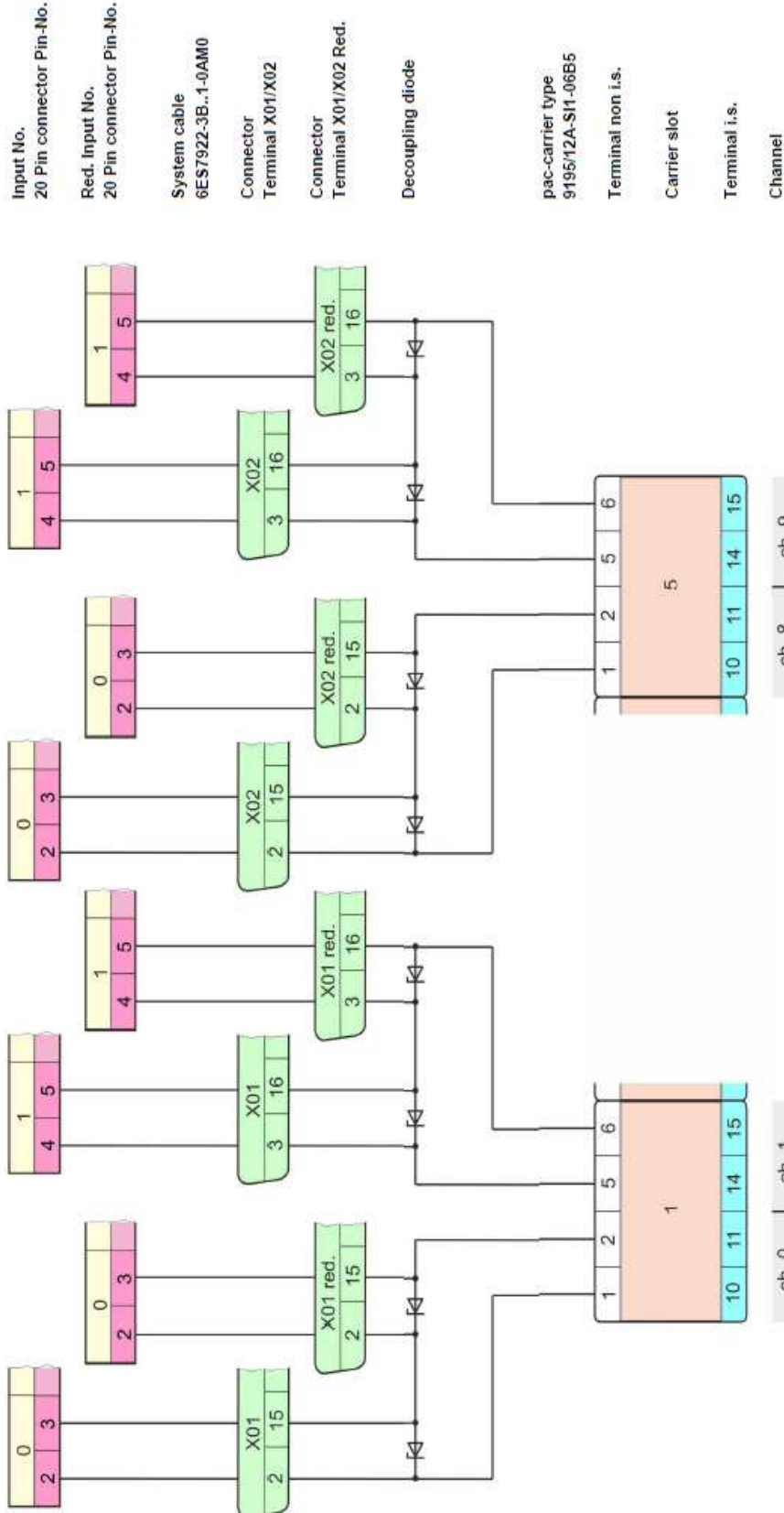


Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS	ET 200M	6ES7 331-7TF01-0AB0	6ES7922-3B..1-0AM0	16 x AI	8	9195/12A-SI1-06B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		⊕ II 3 G Ex nA nC II T4 Gc				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		16				
Connection automation system		(X01, X01 Red., X02, X02 Red.)				
Connection		plug D-Sub 25 M pole				
Number of channels		up to 16				
Fuse		4 x T 0,5 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				


Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info

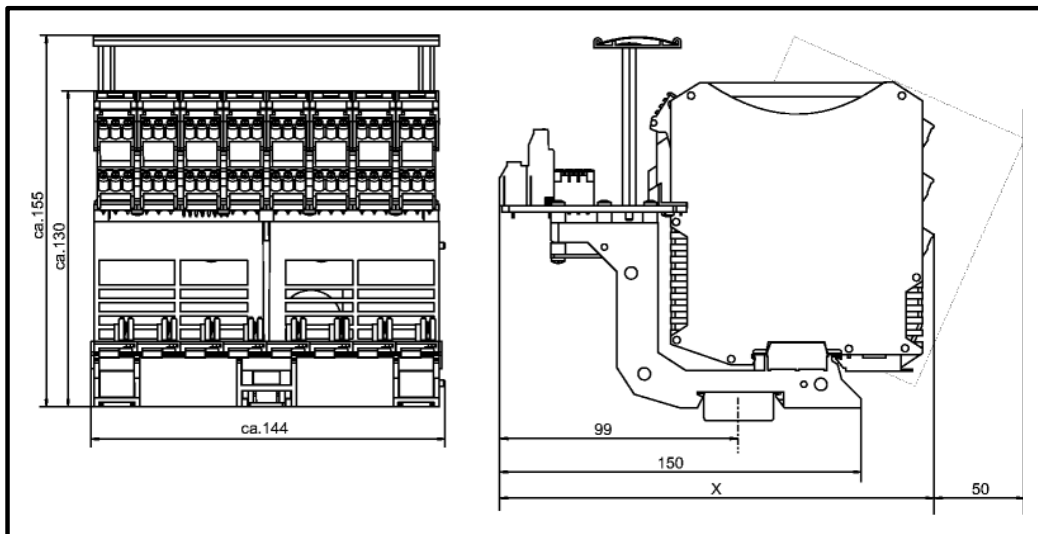
Transmitter supply unit (AI)



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 <p>06314E00</p>	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations



12471E00



	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required. Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single Channel ISpac modules

SIEMENS Modul: 6ES7 331-7TF01-0AB0 (16 x AI)

Channel	Terminal i.s.		Carrier slot	Terminal X01/ X01 Red.		Terminal X02/ X02 Red.		20 Pin connector	Input No.
0	10	+	1	+	2			2	0
	11	-		-	15			3	
1	14	+	1	+	3			4	1
	15	-		-	16			5	
2	10	+	2	+	4			6	2
	11	-		-	17			7	
3	14	+	2	+	5			8	3
	15	-		-	18			9	
4	10	+	3	+	21			12	4
	11	-		-	9			13	
5	14	+	3	+	22			14	5
	15	-		-	10			15	
6	10	+	4	+	23			16	6
	11	-		-	11			17	
7	14	+	4	+	24			18	7
	15	-		-	12			19	
connected to + 24 V DC					1		1	1	
connected to M of 24 V DC					14		14		
no connection to pac carrier					13		13	20	
					25		25		
					8		8	11	
					20		20		
8	10	+	5	+	2	+	2	2	0
	11	-		-	15	-	15	3	
9	14	+	5	+	3	+	3	4	1
	15	-		-	16	-	16	5	
10	10	+	6	+	4	+	4	6	2
	11	-		-	17	-	17	7	
11	14	+	6	+	5	+	5	8	3
	15	-		-	18	-	18	9	
12	10	+	7	+	21	+	21	12	4
	11	-		-	9	-	9	13	
13	14	+	7	+	22	+	22	14	5
	15	-		-	10	-	10	15	
14	10	+	8	+	23	+	23	16	6
	11	-		-	11	-	11	17	
15	14	+	8	+	24	+	24	18	7
	15	-		-	12	-	12	19	
connected to + 24 V DC					1		1	1	
connected to M of 24 V DC					14		14		
no connection to pac carrier					13		13	20	
					25		25		
					8		8	11	
					20		20		

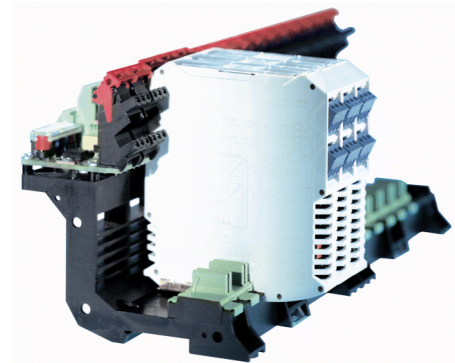
We reserve the right to change the technical data, weights, dimensions, designs and products without notice. The illustration cannot be considered binding.



**pac-Carrier
Type 9195/11H-SI1-07B6**

For SIEMENS / ET 200M / 6ES7332-5HF00-0AB0

- Signal types: 8 x AO
- pac-Carrier for 8 modules, up to 8 signals
- ISpac isolator 9165/16-11-10 and 9167/1.-11-00 can be used
- Customized system cable type 6ES7922-3B..0-0AS0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- 2 x T 0,5 A Fuse for power supply SIEMENS I/O-module
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2

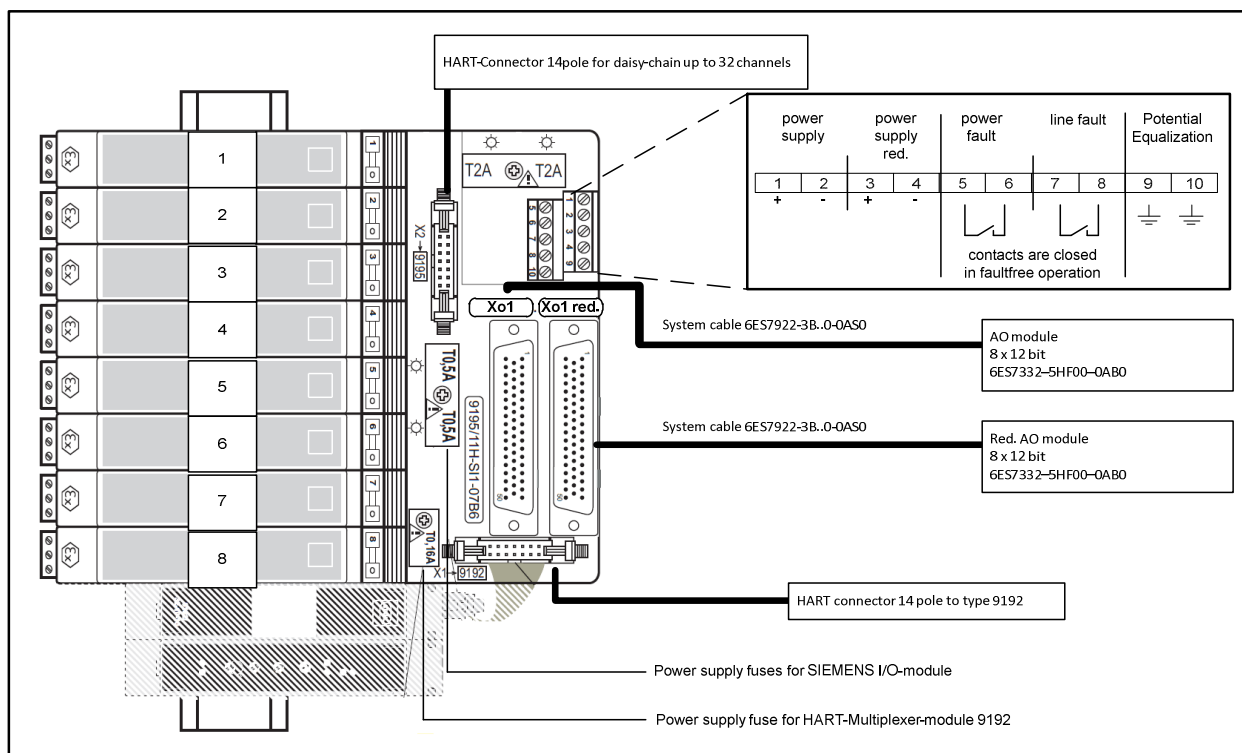


05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.



System overview



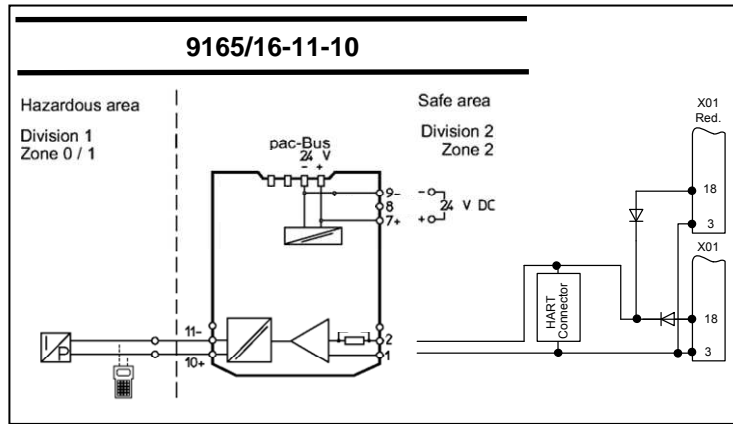
Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7332-5HF00-0AB0	6ES7922-3B..0-0AS0	8 x AO	8	9195/11H-S11-07B6
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		Ⓔ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		8				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 50 M pole for 6ES7922-3B..0-0AS0				
Number of channels		up to 8				
Fuse		2 x T 0,5 A; exchangeable, for power supply SIEMENS I/O-module				
HART interface						
Connector X1		HART connector 14 pole (to HART Multiplexer type 9192/32 or to first pac- Carrier)				
Connector X2		HART connector 14pole optional to second pac- Carrier				
Fuse		1 x T ,16 A; exchangeable, for power supply HART Multiplexer 9192				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

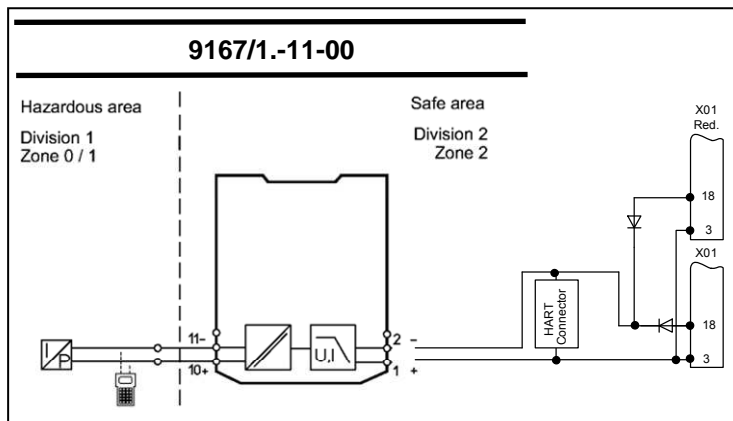
Isolating repeater (AO)

for control valves, i/p-converters or indicators
bi-directional HART communication



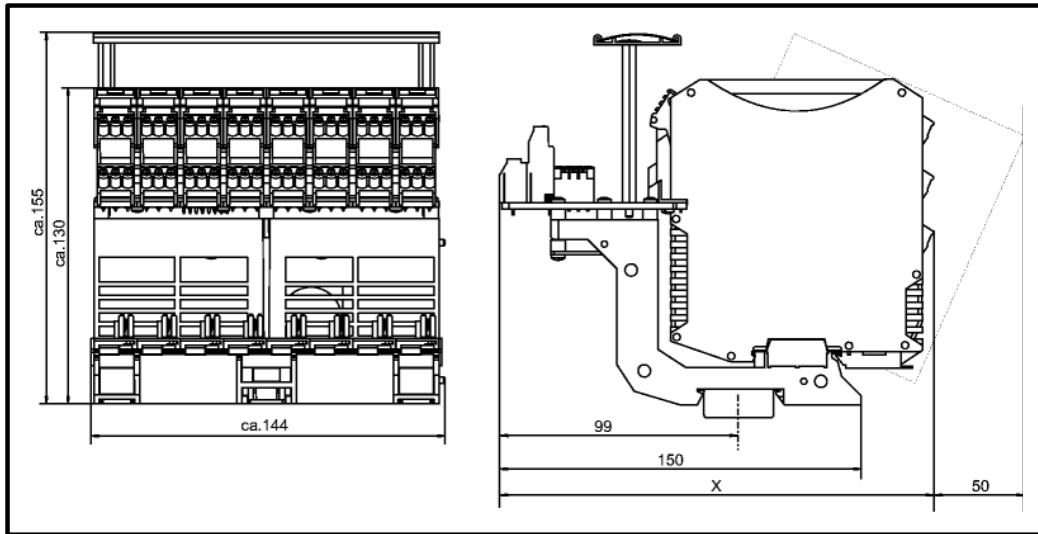
Isolating repeater (AO)

Loop-powered, for control valves,
i/p-converters or indicators
bi-directional HART communication



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	 06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations


12471E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required.
Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single channel ISpac modules
 SIEMENS Modul: 6ES7332-5HF00-0AB0 (8 x A0)

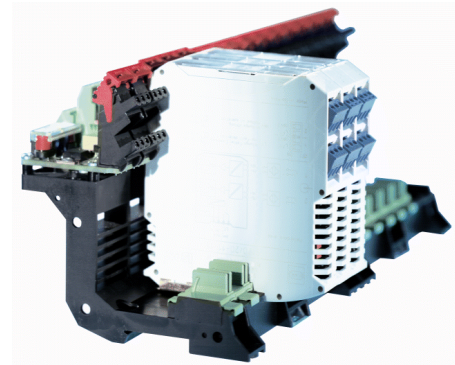
Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		40 Pin connector	Output No.
0	10	+	1	+	18	3	0
	11	-		-	3	6	
1	10	+	2	+	36	7	1
	11	-		-	21, 37	10	
2	10	+	3	+	5, 6	11	2
	11	-		-	39	14	
3	10	+	4	+	23	15	3
	11	-		-	24	18	
4	10	+	5	+	26	23	4
	11	-		-	27	26	
5	10	+	6	+	11	27	5
	11	-		-	12, 13	30	
6	10	+	7	+	45	31	6
	11	-		-	30	34	
7	10	+	8	+	14	35	7
	11	-		-	15	38	
Connected to + 24 V DC				1		1	
				2			
				50			
Connected to 0 V DC				25		20	
				41			



**pac-Carrier
Type 9195/11A-SI1-08B5**

For SIEMENS / ET 200M / 6ES7332-8TF01-0AB0

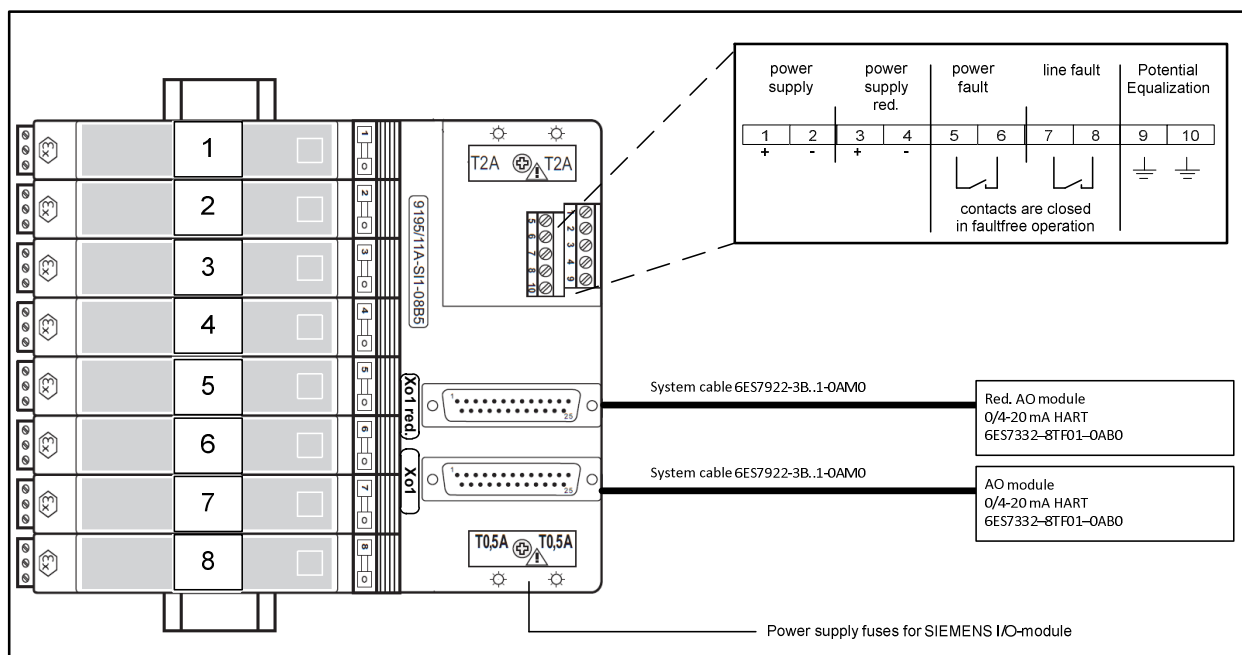
- Signal types: 8 x AO
- pac-Carrier for 8 modules, up to 8 signals
- ISpac isolator 9165/16-11-10 and 9167/1.-11-00 can be used
- Customized system cable type 6ES7922-3B..1-0AM0 to ET 200M
- Redundant power supply with fault signalization contact and exchangeable fuses
- 2 x T 0,5 A Fuse for power supply SIEMENS I/O-module
- Horizontal or vertical installation
- Simple installation on DIN rail or mounting plate
- Many labeling possibilities
- Fast and secure installation of the isolators without tools
- Comfortable exchange of the isolators with secured ejector mechanism
- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2



05179E0

Comfortable and simple integration of the I.S. isolators ISpac into SIEMENS / ET 200M modular I/O station via system specific connection boards and system cables.

System overview



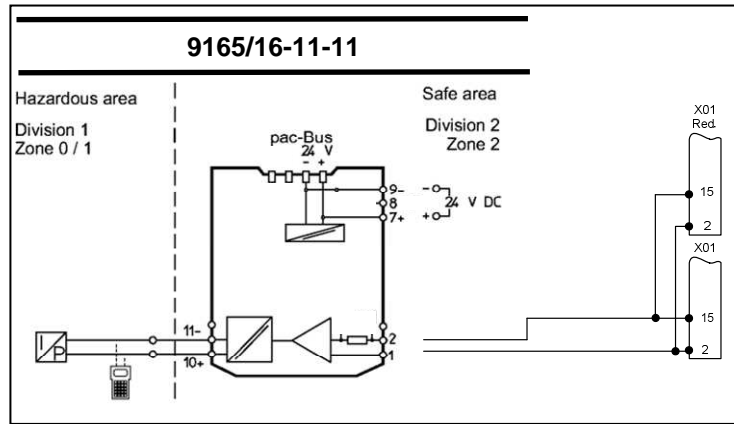
Selection table						
DCS manufacturer	Distributed I/O system	I/O station			pac-Carrier	
		I/O card type	SIEMENS cable type	Signal type	Slots	Type
SIEMENS SIMATIC PCS 7	ET 200M	6ES7332-8TF01-0AB0	6ES7922-3B..1-0AM0	8 x AO	8	9195/11A-S11-08B5
Technical data						
Certificates		BVS 03 ATEX E213 X				
Explosion protection		Ⓔ II 3 G Ex nA nC II T4				
Installation		In Zone 2, Zone 22 (non-conductive dust), Div. 2 and in the safe area				
Power supply		(X31)				
Nominal voltage U_N		24 V DC (19 V ... 31,2 V)				
Redundant supply		yes, decoupled with diodes				
Indication		2 LED green „PWR1“; „PWR2“				
Fuse		2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply				
Polarity reversal protection		yes				
Connection field devices						
Connection		at the terminals of the I.S. isolators (see “signal loops”)				
Number of channels		8				
Connection automation system		(X01, X01 Red.)				
Connection		plug D-Sub 25 M pole for 6ES7922-3B..1-0AM0				
Number of channels		up to 8				
Fuse		2 x T 0,5 A; exchangeable, for power supply SIEMENS I/O-module				
Error messaging		(X31)				
Power supply failure PF		Contact (35 V / 100 mA), closed in good conditions				
Line fault LF (of ISpac modules)		Contact (35 V / 100 mA), closed in good conditions				
Ambient conditions						
Ambient temperature		max. - 20 °C ... + 70 °C (see specification of the I.S. isolators)				
Storage temperature		- 40 °C ... + 80 °C				
Relative humidity (no condensation)		≤ 95 %				
Mechanical data						
Weight		approx. 320 g				
Mounting type		on DIN rail, (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)				
Mounting position		horizontal or vertical				
Casing / Terminal protection class		IP 00 / IP 20				
Casing material		PA 6.6				
Fire protecting class (UL-94)		V0				

Signal loops

The diagrams below show typical applications. Please refer to the connection list to get the entire connection scheme. Basic technical parameters of the ISpac isolating repeaters can be found at the end of this document. The detailed specifications can be downloaded at: www.ispac.info.

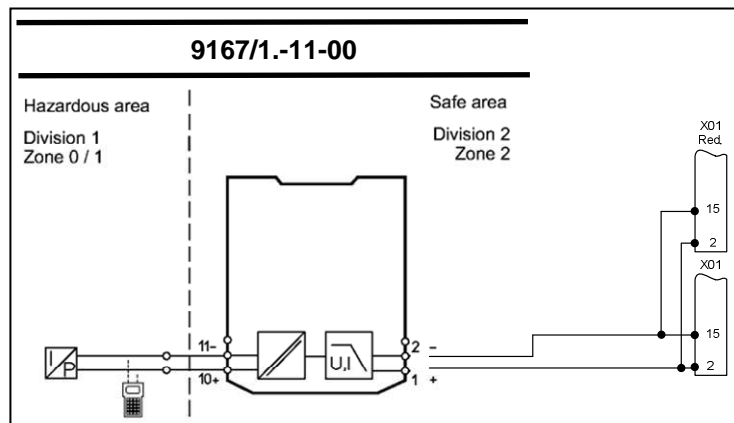
Isolating repeater (AO)

for control valves, i/p-converters or indicators
bi-directional HART communication



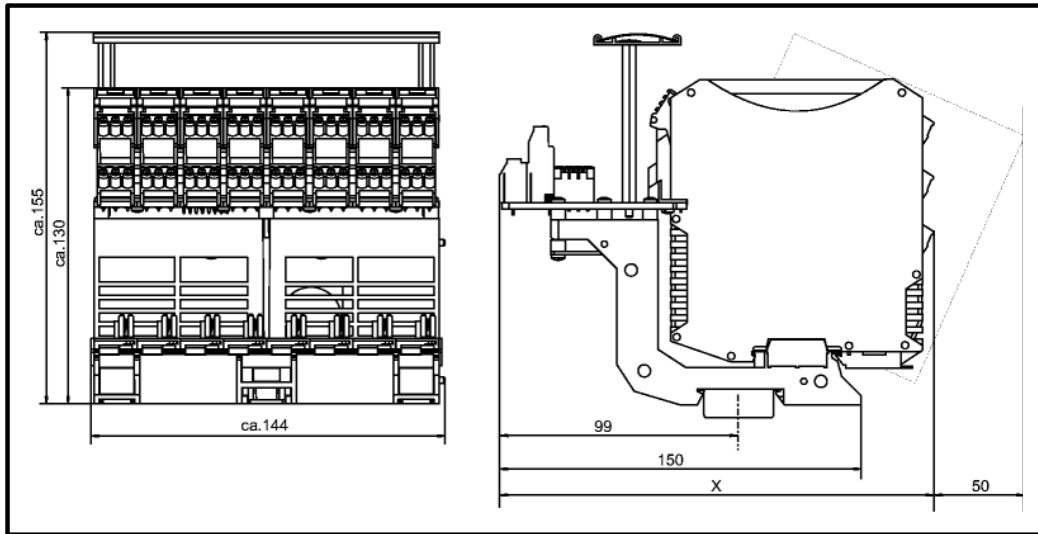
Isolating repeater (AO)

Loop-powered, for control valves,
i/p-converters or indicators
bi-directional HART communication



Accessories and Spare Parts

Designation	Illustration	Description	Order number
Non-Ex i Termination Module	<p>06314E00</p>	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	9191/20-00-50s

Dimension drawings (all dimensions in mm) - subject to alterations


12471E00

	Dimension x
Screw terminals	176 mm
Cage clamp terminals	186 mm

Please note: In order to snap in the ISpac modules an extra space of approx. 50 mm is required.
Please read the "ISpac engineering guideline" carefully before you start to engineer the enclosures with incorporated ISpac modules with or without pac-Carriers. The "ISpac engineering guideline" can be downloaded at: www.ispac.info.

Connection list

For single channel ISpac modules
 SIEMENS Modul: 6ES7332-8TF01-0AB0 (AO 0/4-20 mA HART)

Channel	Terminal I.S.		Carrier slot	Terminal X01/ X01 Red.		20 Pin connector	Output No.
	10	11		+	-		
0	10	+	1	+	2	2	0
	11	-		-	15	3	
1	10	+	2	+	3	4	1
	11	-		-	16	5	
2	10	+	3	+	4	6	2
	11	-		-	17	7	
3	10	+	4	+	5	8	3
	11	-		-	18	9	
4	10	+	5	+	21	12	4
	11	-		-	9	13	
5	10	+	6	+	22	14	5
	11	-		-	10	15	
6	10	+	7	+	23	16	6
	11	-		-	11	17	
7	10	+	8	+	24	18	7
	11	-		-	12	19	
Connected to + 24 V DC				1	14	1	
Connected to 0 V DC				13	25	20	



We reserve the right to change the technical data, weights, dimensions, designs and products without notice.
 The illustration cannot be considered binding.

Notes:



Notes:





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S – EG / SI – 9195 – 04 – en – 01 / 2017