ISpac ®

Engineering Guideline

pac-Carriers Type 9195 (FTA)

for Honeywell system
Experion Series C I/O

STAHL

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 and machine manufacturing. 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 cage clamp type.
The connection to the control system I/O module is simply done by connecting a customer specific cable to the screw terminal of the pac Carrier.
The use of the pac-Carrier reduces the required time for installation and enables pre-wiring for later upgrades.

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 STAHL
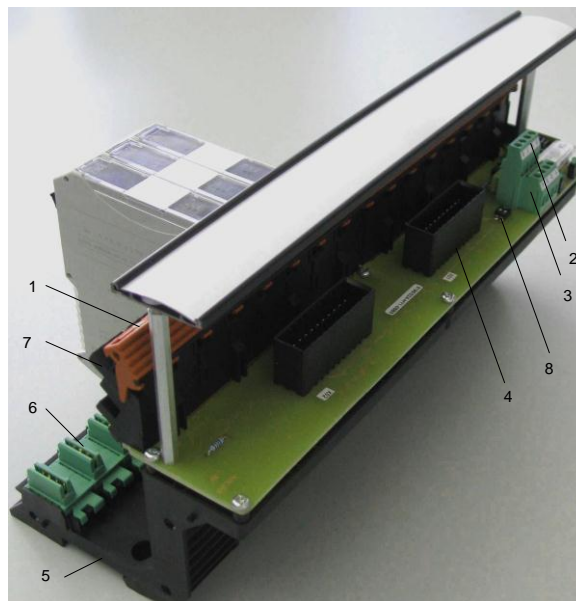

Example of 8 Slots Carrier

1. Ejector mechanism
2. Redundant and fused supply
3. Power supply failure and line fault signaling via relay contact
4. Interface for field signal connection w/o (Tyco 20pin Dynamic series) Ex i/I.S. isolator
5. Installation on DIN rail or mounting plate
6. Integrated pac bus for power supply and line-fault signaling
7. Reliable snap-in mechanism, without tool
8. Line fault switch

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 bus. The software FDM allows configuration and diagnostics of all connected HART-capable field devices, plus continuous documentation of the process variables and status.

Interconnection:
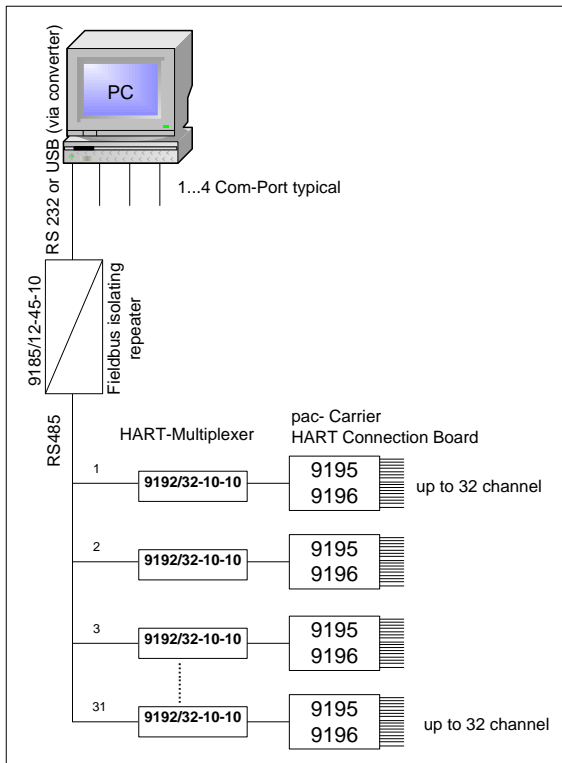
Accessories and Spare Parts

Designation	Description	Order number
Fieldbus isolating repeater	• Adjustable baud rate (1.2 kBit/s up to 1.5 MBit/s) • Power supply 24 V AC/DC	9185/12-45-10s
pac-Carrier	8 slots, HART	9195/1*H-...-...
	16 slots, HART	9195/2*H-...-...
Connection board	for none Ex-applications, HART, 16 channels	9196/16H-XX0-...

Daisy chaining of several pac- Carriers to one HART-Multiplexer:
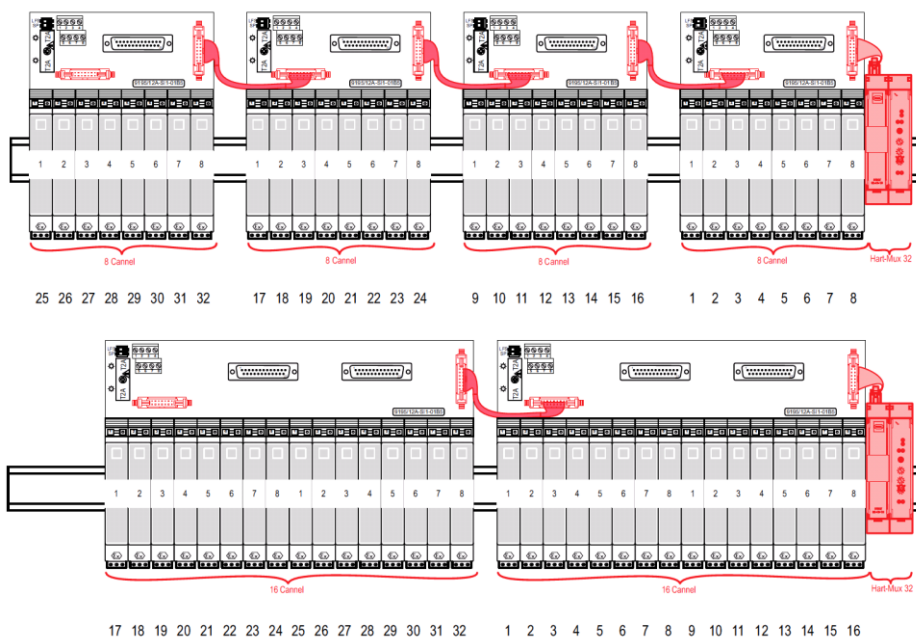
Line fault detection alarms

Where LFD alarm contacts are available

- **For one pac- Carrier**

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

	One channel module	dual channel module
Pac- Carrier	9195/21A-HY1-03B8	9195/12A-HY1-03B8 and 9195/22A-HY1-03B8
Connection diagram		
Note	Here can be used all channels of the pac- Carrier.	

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

	One channel module	dual channel module
Pac- Carrier	9195/21A-HY1-03B8	9195/12A-HY1-03B8 and 9195/22A-HY1-03B8
Connection diagram		
Note	The last channel is channel #16 on the slot #16 at pac-Carrier 9195/21A-..-….	The last channel is channel #16 on the slot #8 at pac- Carrier 9195/12A-..-…. or channel #32 on the slot #16 at pac- Carrier 9195/22A-..-….

- **For several pac- Carriers**

- These are routed into the last channel (Channel #16 or #32) on the first pac- Carrier; this avoids any external wiring of these alarm signals (one channel is reserved for all line faults in housing).
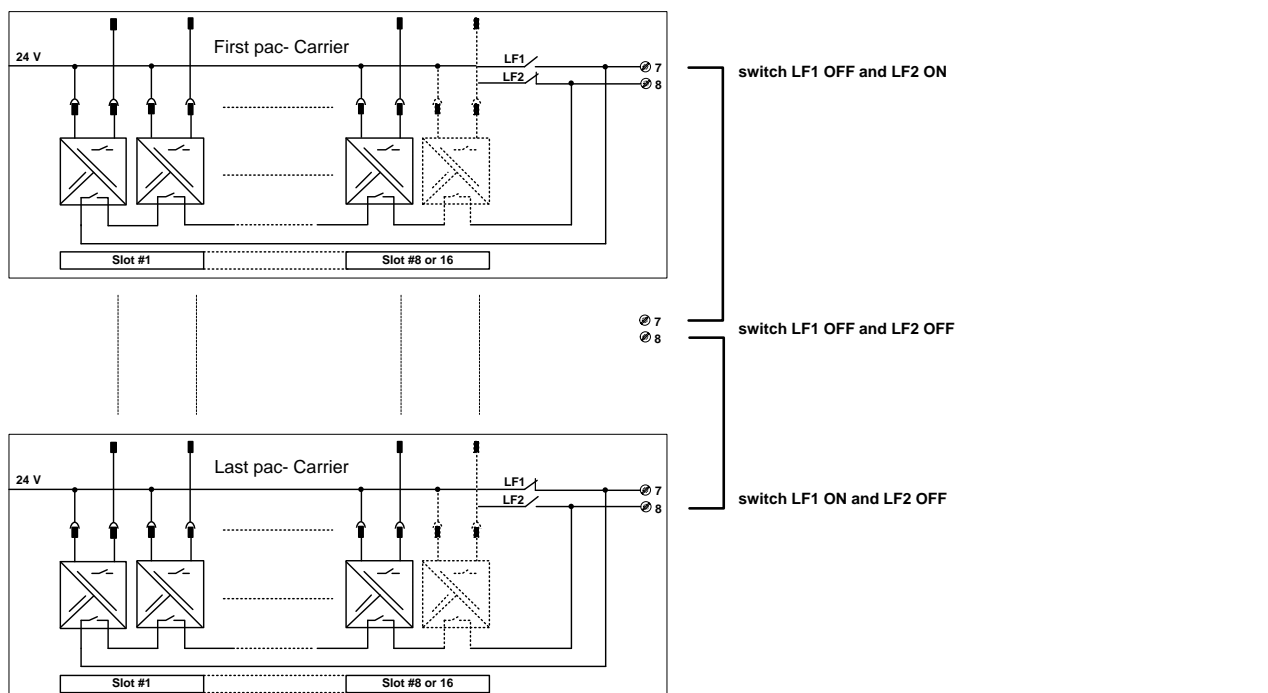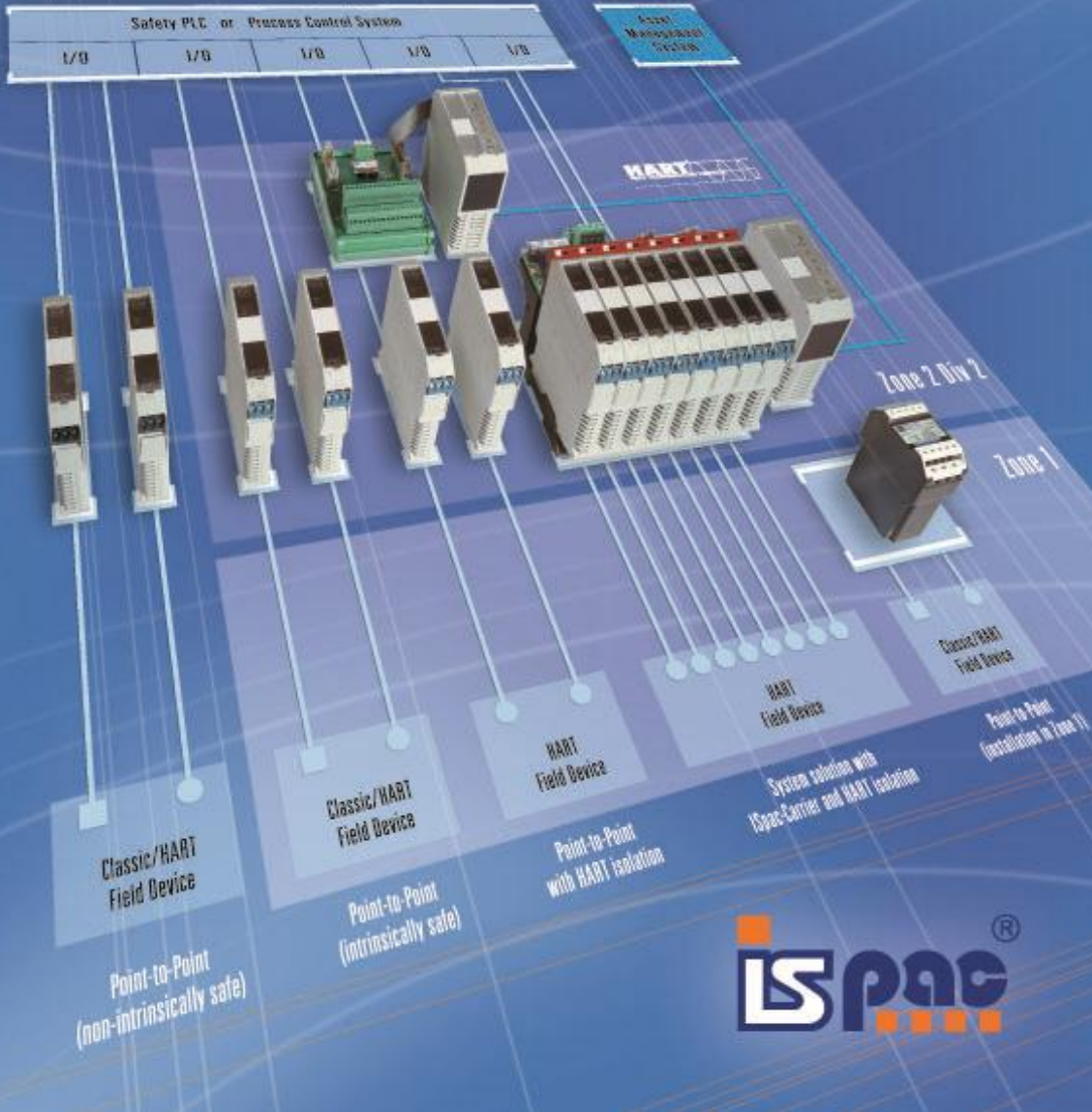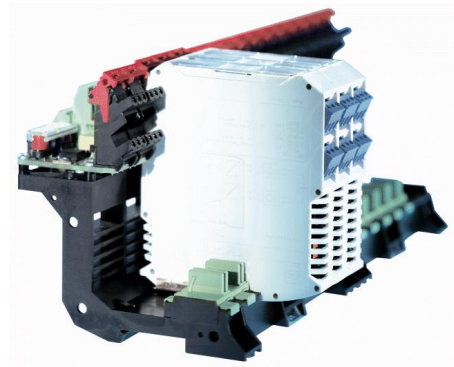
Contents

Control system			pac-Carrier (FTA)					
Signal type	I/O cards type	Channels	Channels	Slots	Stahl cable type	pac-Carrier type	ISpac	page
AI	CC-TAIX01 CC-TAIX11	16	16	8	9195/C-010	9195/12H-HY1-02B8 (1 … 5V input cards)	9160/23-11-11 9163/23-11-11 9182/20-51-11	9-13
						9195/12H-HY1-01B8		21-25
		16	16	16	9195/C-010	9195/21H-HY1-02B8 (1 … 5V input cards)	9160/13-11-11 9163/13-11-11 9182/10-51-11	15-19
AO	CC-TAOX01 CC-TAOX11	16	16	8	9195/C-011	9195/12H-HY1-01B8	9165/26-11-11 9167/2x-11-00	21-25
DI	CC-TDIL01 CC-TDIL11	32	16	8	9195/C-012	2 x 9195/12A-HY1-03B8	9170/20-10-11	27-31
		32	16	16		2 x 9195/21A-HY1-03B8	9170/10-11-11	33-37
		32	32	16		1 x 9195/22A-HY1-03B8	9170/20-10-11	39-43
DO	CC-TDOLx1	16	16	16	9195/C-011	9195/21A-HY1-04B8	9175/10-1x-11 9176/10-1x-00 9172/11-11-00	45-49

STAHL

**pac-Carrier
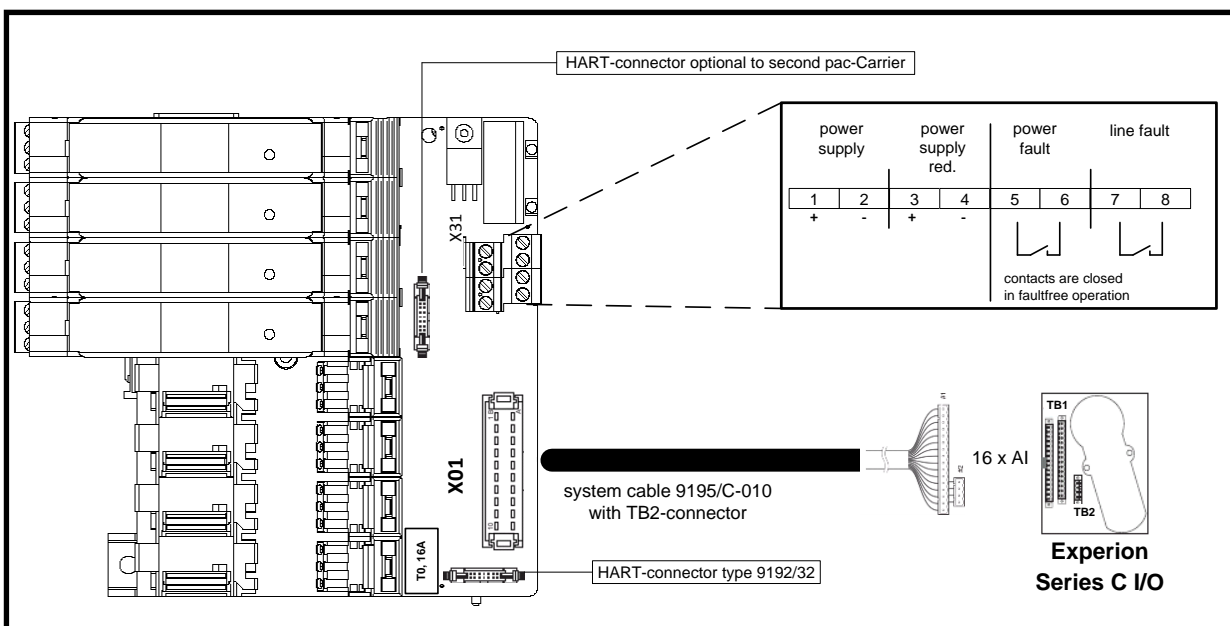Type 9195/12H-HY1-02B8 (1 … 5V input cards)**

- **For Honeywell Experion Series C I/O**
- Signal types: 16 x AI
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator 9160/23-11-11, 9163/23-11-11
  9182/20-51-11 can be used
- Customized system cable type
  9195/C-010 to automation systems
- Redundant power supply with message
  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

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Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via system specific connection boards and system cables.
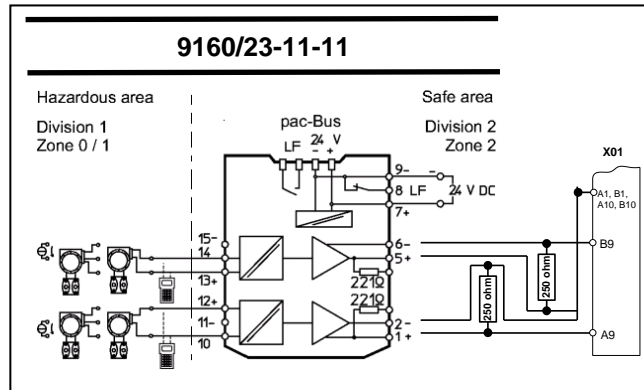
System overview

Selection table								
Control system				**pac-Carrier**				
DCS manufacturer	**DCS type**	**I/O cards type**	**Signal type**	**Slots**	**Stahl Cable type**	**ISpac**		**Type**
Honeywell	Experion Series C	CC-TAIXx1	16 x AI	8	9195/C-010	9160/23-11-11 9163/23-11-11 9182/20-51-11		9195/12H-HY1-02B8

Technical data

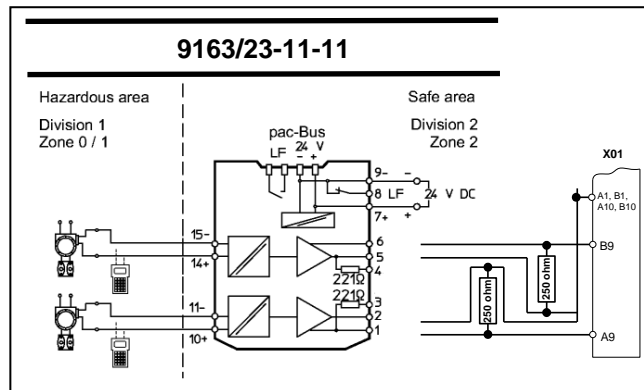|	
Certificates	BVS 03 ATEX E213 X
Explosion protection	⟨Ex⟩ II 3 G Ex nA nC II T4
Installation	In Zone 2, Zone 22 (non conductible dust), Div. 2 and in the safe area
Power supply	**(X31)**
Nominal voltage U_N	24 V DC (19 V … 31,2 V)
Redundant supply	yes, decoupled with diodes
Indication	2 LED green „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)**
Connection	Tyco 20pin Dynamic series for 9195/C-010
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
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.

Accessories and Spare Parts

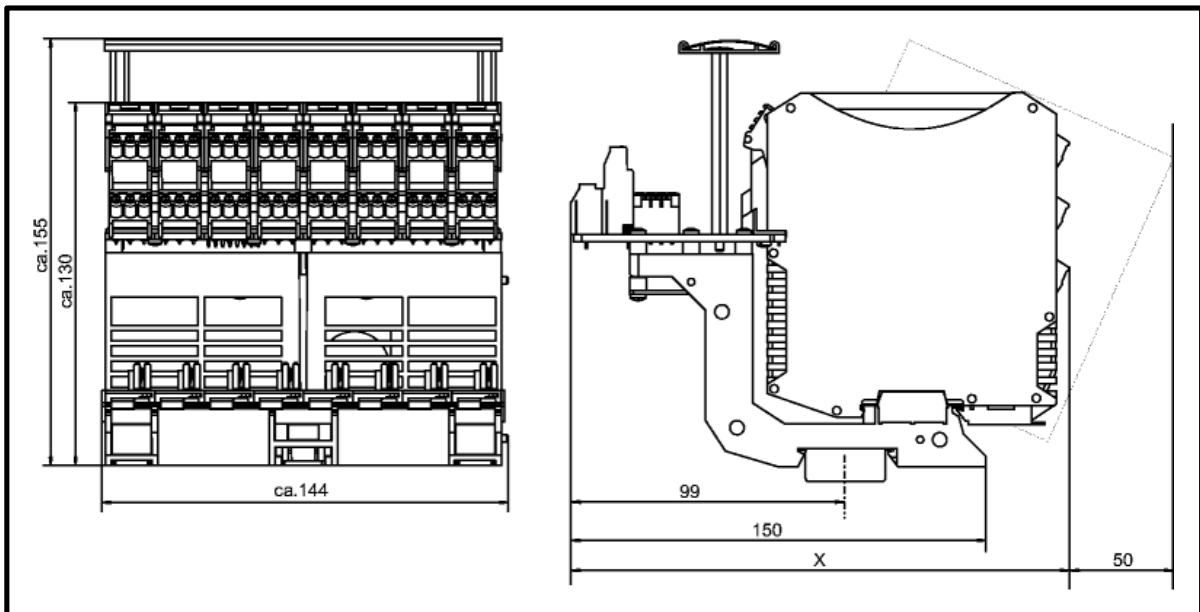| Designation	Illustration	Description	Order number
Non-Ex i Termination Module	06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	**9191/20-00-50s**
System cable		Customized system cable type 9195/C-010 for Honeywell I/O Module with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey	**9195/C-010**

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

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	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 from: www.ispac.info.

Connection list

For 2 Ch. ISpac modules AI 0/4-20 mA HART

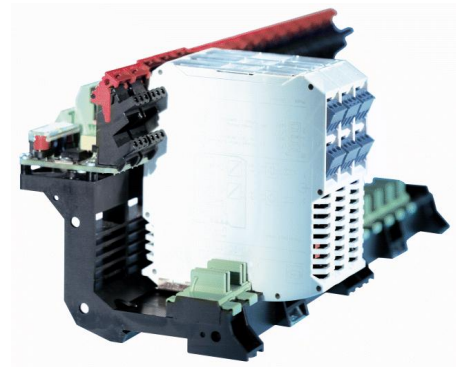| Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16 Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		-	1)		
2	10	+		+	B9	4	2
	11	-		-	1)		
3	10	+	2	+	A8	6	3
	11	-		-	1)		
4	10	+		+	B8	8	4
	11	-		-	1)		
5	10	+	3	+	A7	10	5
	11	-		-	1)		
6	10	+		+	B7	12	6
	11	-		-	1)		
7	10	+	4	+	A6	14	7
	11	-		-	1)		
8	10	+		+	B6	16	8
	11	-		-	1)		
9	10	+	5	+	A5	18	9
	11	-		-	1)		
10	10	+		+	B5	20	10
	11	-		-	1)		
11	10	+	6	+	A4	22	11
	11	-		-	1)		
12	10	+		+	B4	24	12
	11	-		-	1)		
13	10	+	7	+	A3	26	13
	11	-		-	1)		
14	10	+		+	B3	28	14
	11	-		-	1)		
15	10	+	8	+	A2	30	15
	11	-		-	1)		
16	10	+		+	B2	32	16
	11	-		-	1)		
						TB2 4-Pin connector	
1) connected to signal (-)				A1	3		1-16
				B1	4		
				A10	1		
				B10	2		

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

pac-Carrier
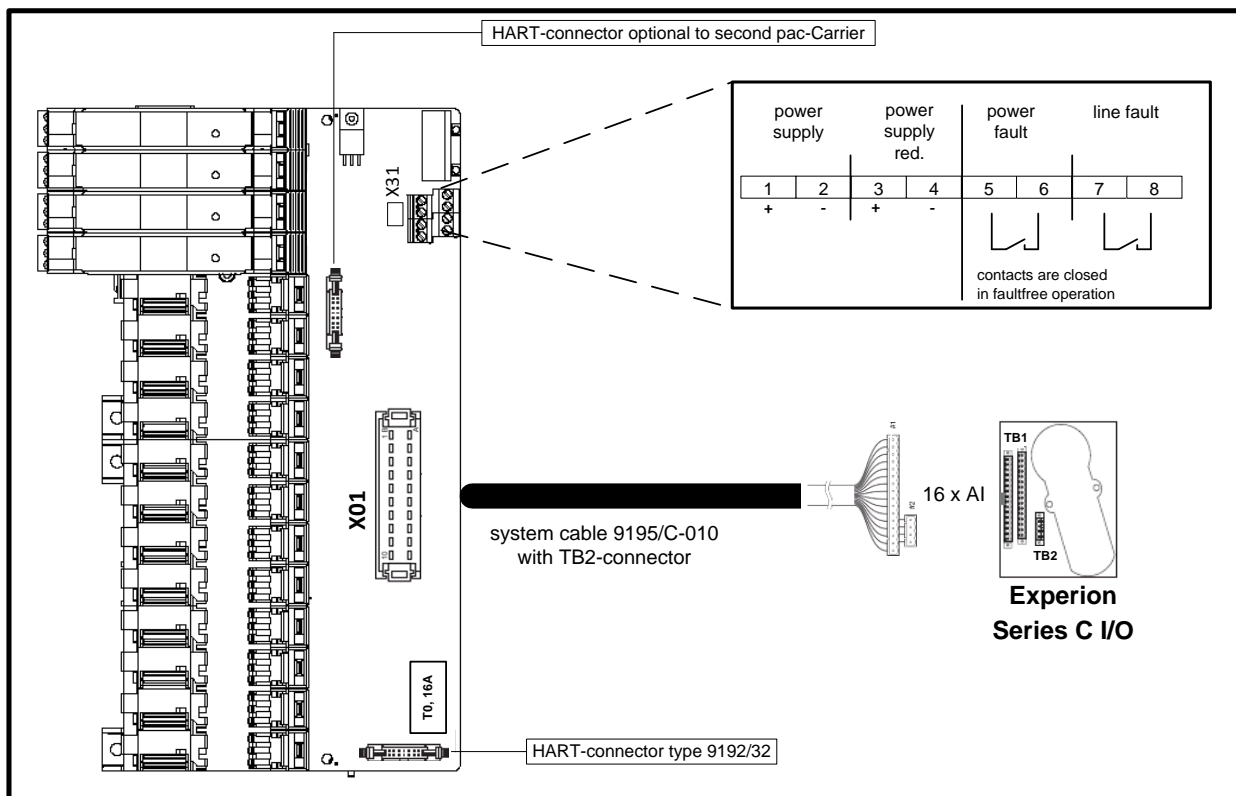**Type 9195/21H-HY1-02B8** (1 ... 5V input cards)

- **For Honeywell Experion Series C I/O**
- Signal types: 16 x AI
- pac-Carrier for 16 modules, up to 16 signals
- ISpac isolator 9160/13-11-11, 9163/13-11-11, 9182/10-51-11 can be used
- Customized system cable type 9195/C-010 to automation systems
- Redundant power supply with message 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

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Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via system specific connection boards and system cables.

System overview

STAHL

HART-connector optional to second pac-Carrier

power supply		power supply red.		power fault		line fault	
1	2	3	4	5	6	7	8
+	-	+	-				

contacts are closed in faultfree operation

X31

X01

T0, 16A

16 x AI

system cable 9195/C-010 with TB2-connector

HART-connector type 9192/32

TB1

TB2

Experion Series C I/O

Selection table							
Control system				**pac-Carrier**			
DCS manufacturer	DCS type	I/O cards type	Signal type	Slots	Stahl Cable type	ISpac	Type
Honeywell	Experion Series C	CC-TAIX01	16 x AI	16	9195/C-010	9160/13-11-11 9163/13-11-11 9182/10-51-11	9195/21H-HY1-02B8

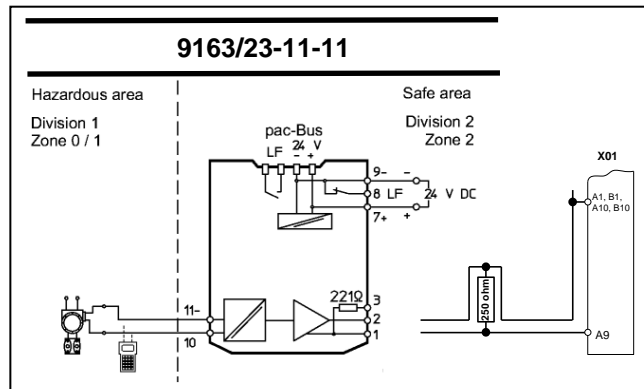| Technical data	
Certificates **Explosion protection** **Installation**	BVS 03 ATEX E213 X Ⓔx II 3 G Ex nA nC II T4 In Zone 2, Zone 22 (non conductible dust), Div. 2 and in the safe area
Power supply Nominal voltage U_N Redundant supply Indication Fuse Polarity reversal protection	**(X31)** 24 V DC (19 V … 31,2 V) yes, decoupled with diodes 2 LED green „PWR1"; „PWR2" 2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply yes
Connection field devices Connection Number of channels	at the terminals of the I.S. isolators (see "signal loops") 16
Connection automation system Connection Number of channels	**(X01)** Tyco 20pin Dynamic series for 9195/C-010 up to 16
Error messaging Power supply failure PF Line fault LF (of ISpac modules)	**(X31)** Contact (35 V / 100 mA), closed in good conditions Contact (35 V / 100 mA), closed in good conditions
Ambient conditions Ambient temperature Storage temperature Relative humidity (no condensation)	max. - 20 °C ... + 70 °C (see specification of the I.S. isolators) - 40 °C ... + 80 °C ≤95 %
Mechanical data Weight Mounting type Mounting position Casing / Terminal protection class Casing material Fire protecting class (UL-94)	approx. 320 g on DIN rail (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6) horizontal or vertical IP 00 / IP 20 PA 6.6 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.

STAHL

Accessories and Spare Parts

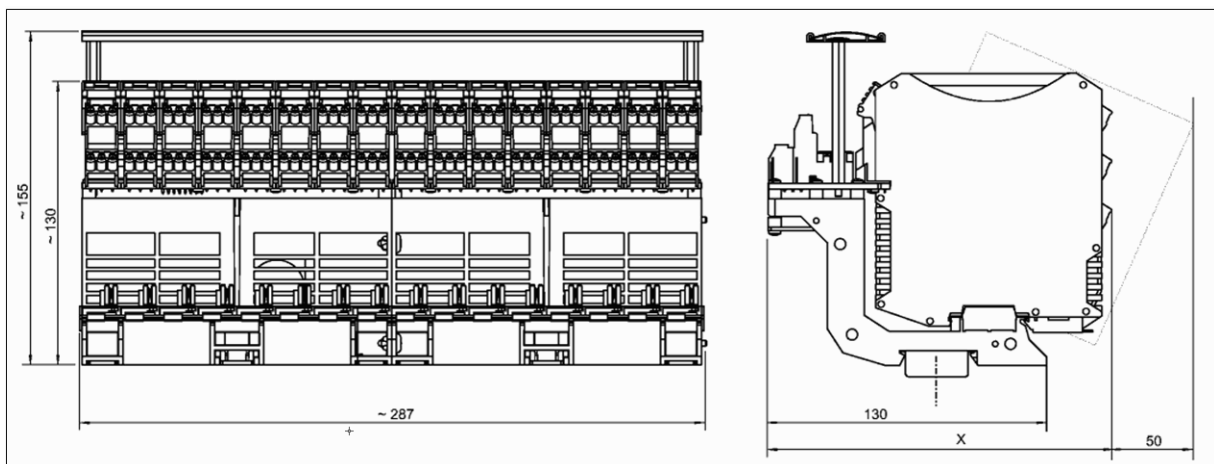| Designation	Illustration	Description	Order number
Non-Ex i Termination Module	06314E00	The termination module is used to integrate non-Ex i field circuit into the system integration solution pac-Carrier type 9195. In such a way it enables a flexible mixture of Ex i and non-Ex i field circuits.	**9191/20-00-50s**
System cable		Customized system cable type 9195/C-010 for Honeywell I/O Module with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey	**9195/C-010**

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 from: www.ispac.info.

Connection list

For 1 Ch. ISpac modules AI 0/4-20 mA HART

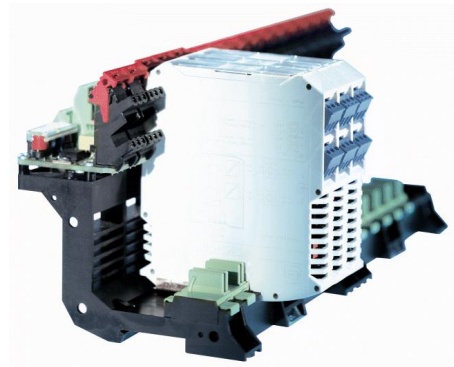| Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16-Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		-	1)		
2	10	+	2	+	B9	4	2
	11	-		-	1)		
3	10	+	3	+	A8	6	3
	11	-		-	1)		
4	10	+	4	+	B8	8	4
	11	-		-	1)		
5	10	+	5	+	A7	10	5
	11	-		-	1)		
6	10	+	6	+	B7	12	6
	11	-		-	1)		
7	10	+	7	+	A6	14	7
	11	-		-	1)		
8	10	+	8	+	B6	16	8
	11	-		-	1)		
9	10	+	9	+	A5	18	9
	11	-		-	1)		
10	10	+	10	+	B5	20	10
	11	-		-	1)		
11	10	+	11	+	A4	22	11
	11	-		-	1)		
12	10	+	12	+	B4	24	12
	11	-		-	1)		
13	10	+	13	+	A3	26	13
	11	-		-	1)		
14	10	+	14	+	B3	28	14
	11	-		-	1)		
15	10	+	15	+	A2	30	15
	11	-		-	1)		
16	10	+	16	+	B2	32	16
	11	-		-	1)		
						TB2 4-Pin connector	
1) connected to signal (-)					A1	3	1-16
					B1	4	
					A10	1	
					B10	2	

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pac-Carrier
Type 9195/12H-HY1-01B8

- **For Honeywell Experion Series C I/O**
- Signal types: 16 x AI or 16 x AO
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator
  AI: 9160/23-11-11, 9163/23-11-11, 9182/20-51-11 or **AO:** 9165/26-11-11, 9167/2x-11-00 can be used
- Customized system cable type 9195/C-011 for AO and 9195/C-010 for AI to automation systems
- Redundant power supply with message 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
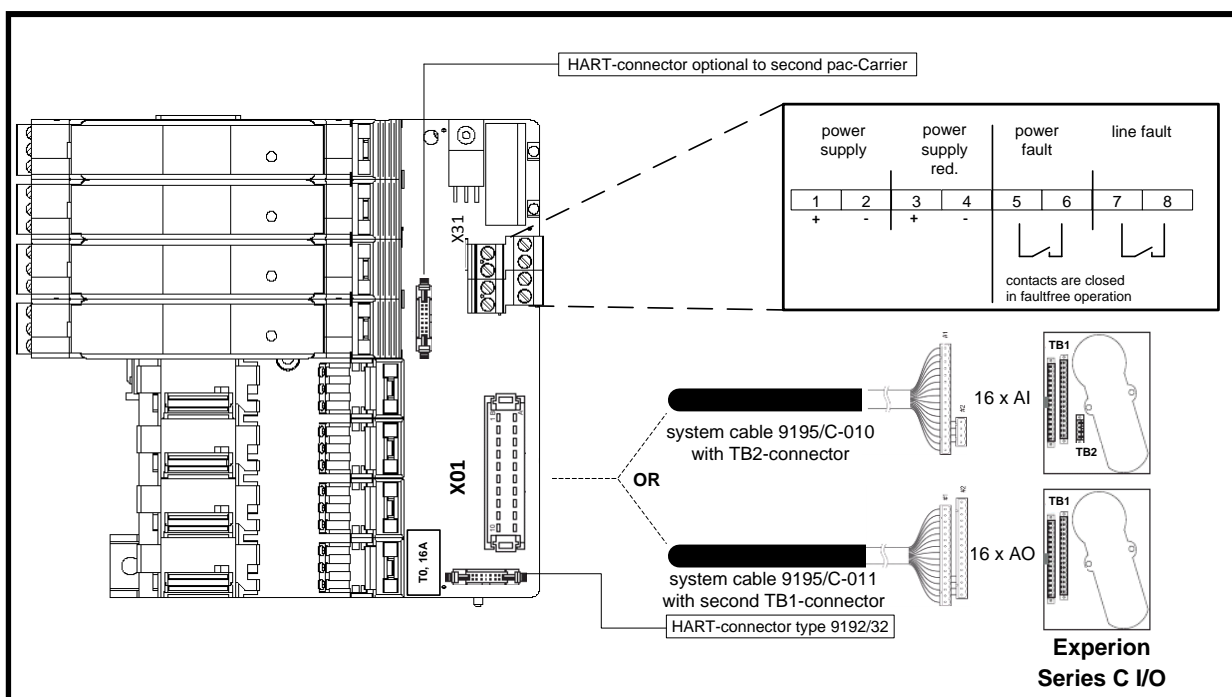- Installation possible in Zone 2, Zone 22 (non conductible dust) and Div. 2

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Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via system specific connection boards and system cables.
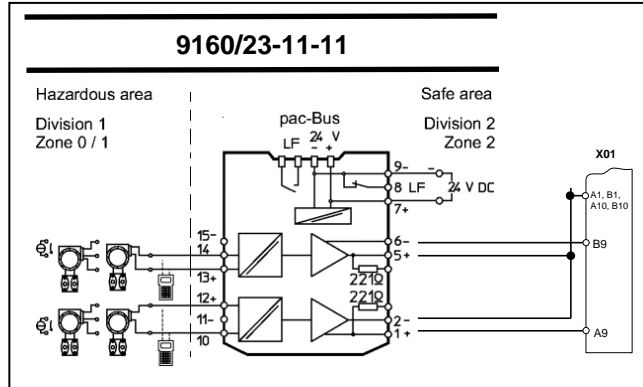
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System overview

Selection table								
Control system				**pac-Carrier**				
DCS manufacturer	DCS type	I/O cards type	Signal type	Slots	Stahl Cable type	ISpac		Type
Honeywell	Experion Series C	CC-TAIXx1	16 x AI	8	9195/C-010	9160/23-11-11 9163/23-11-11 9182/20-51-11		9195/12H-HY1-01B8
		CC-TAOXx1	16 x AO		9195/C-011	9165/26-11-11 9167/2x-11-00		

Technical data

Certificates	BVS 03 ATEX E213 X
Explosion protection	⟨Ex⟩ II 3 G Ex nA nC II T4
Installation	In Zone 2, Zone 22 (non conductible 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)**
Connection	Tyco 20pin Dynamic series for 9195/C-010 or 9195/C-011
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

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 %

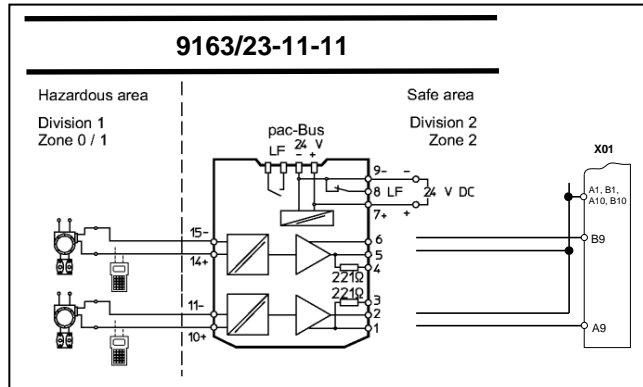|	
Mechanical data	
Weight	approx. 320 g
Mounting type	on DIN rail (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)
Mounting position	horizontal or vertical
Casing / Terminal protection class	IP 00 / IP 20
Casing material	PA 6.6
Fire protecting class (UL-94)	V0

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

9160/23-11-11

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

9163/23-11-11

Temperature transmitter (AI)

for resistance thermometer, thermocouple and RTD
(Configuration by means of DIP Switches or
ISpac Wizard software)

9182/20-51-11

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

Isolating repeater (AO)
for control valves, i/p-converters or indicators
bi-directional HART communication

9165/26-11-11
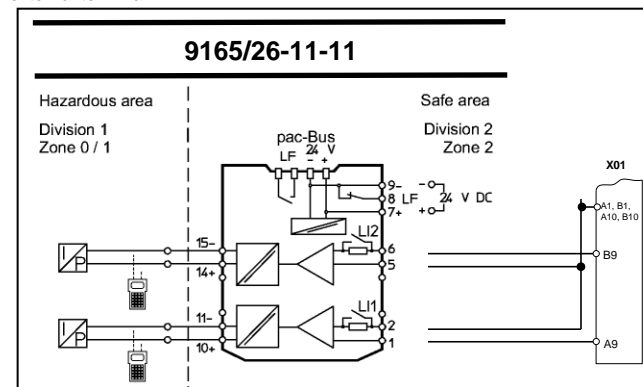
Isolating repeater (AO)
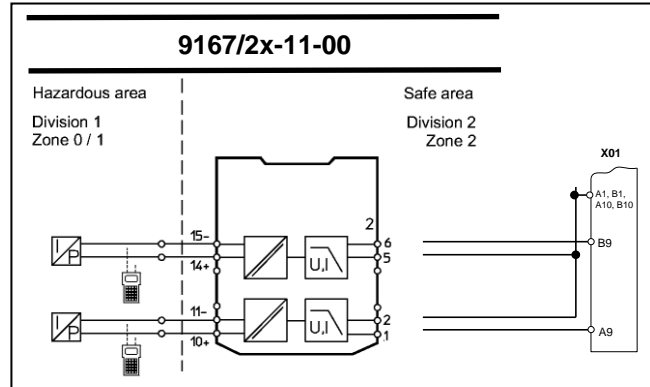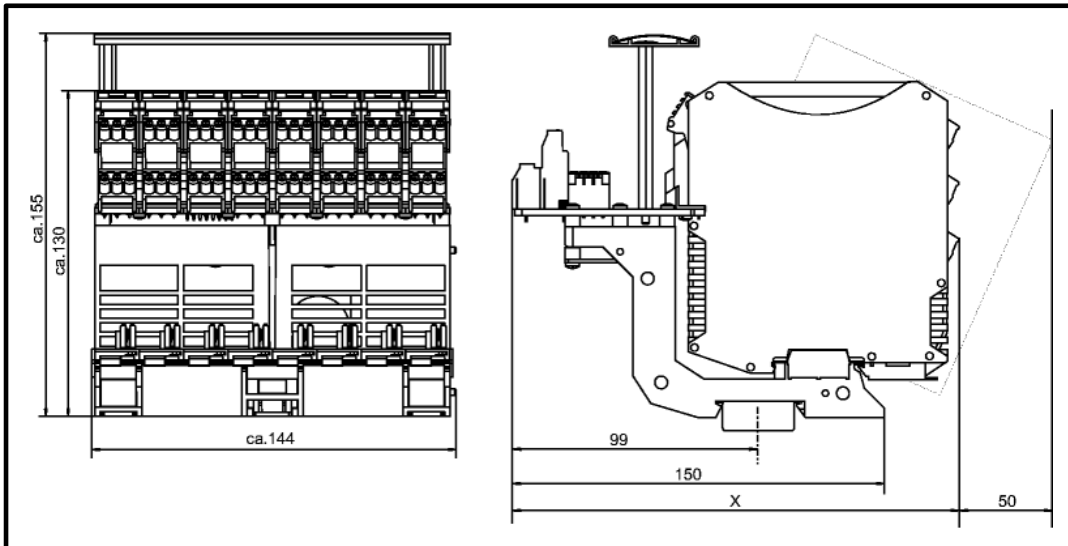Loop-powered, for control valves,
i/p-converters or indicators
bi-directional HART communication

9167/2x-11-00

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**
System cable		Customized system cable type 9195/C-010 for Honeywell I/O Module (CC-TAIXx1) with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey	**9195/C-010**
		Customized system cable type 9195/C-011 for Honeywell I/O Module (CC-TAOXx1) with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey	**9195/C-011**

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 from: www.ispac.info.

Connection list

For 1 Ch. ISpac modules CC-TAIXx1 / CC-TAOXx1 AI/AO 0/4-20 mA HART

Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16 Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		-	1)		
2	10	+	2	+	B9	4	2
	11	-		-	1)		
3	10	+	3	+	A8	6	3
	11	-		-	1)		
4	10	+	4	+	B8	8	4
	11	-		-	1)		
5	10	+	5	+	A7	10	5
	11	-		-	1)		
6	10	+	6	+	B7	12	6
	11	-		-	1)		
7	10	+	7	+	A6	14	7
	11	-		-	1)		
8	10	+	8	+	B6	16	8
	11	-		-	1)		
9	10	+	9	+	A5	18	9
	11	-		-	1)		
10	10	+	10	+	B5	20	10
	11	-		-	1)		
11	10	+	11	+	A4	22	11
	11	-		-	1)		
12	10	+	12	+	B4	24	12
	11	-		-	1)		
13	10	+	13	+	A3	26	13
	11	-		-	1)		
14	10	+	14	+	B3	28	14
	11	-		-	1)		
15	10	+	15	+	A2	30	15
	11	-		-	1)		
16	10	+	16	+	B2	32	16
	11	-		-	1)		

TB2 4-Pin connector for CC-TAIXx1

	Terminal X01	TB2 4 Pin connector	Input No.
1) connected to signal (-)	A1	3	1- 16
	B1	4	
	A10	1	
	B10	2	

TB1 16-Pin connector for CC-TAOXx1

	Terminal X01	TB1 16 Pin connector	Input No.
1) connected to signal (-)	A1	3	1- 16
	B1	4	
	A10	1	
	B10	2	

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

**pac-Carrier
Type 9195/12A-HY1-03B8**

- **For Honeywell Experion Series C I/O**
- Signal types: 16 x DI
- pac-Carrier for 8 modules, up to 16 signals
- ISpac isolator can be used
- Customized system 9170/20-10-11 cable type 9195/C-012 to automation systems
- Redundant power supply with message contact and exchangeable fuses
- Collective error messaging and power supply failure are on system connector switchable
- 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
- LFD is routed into the last channel on the pac-Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
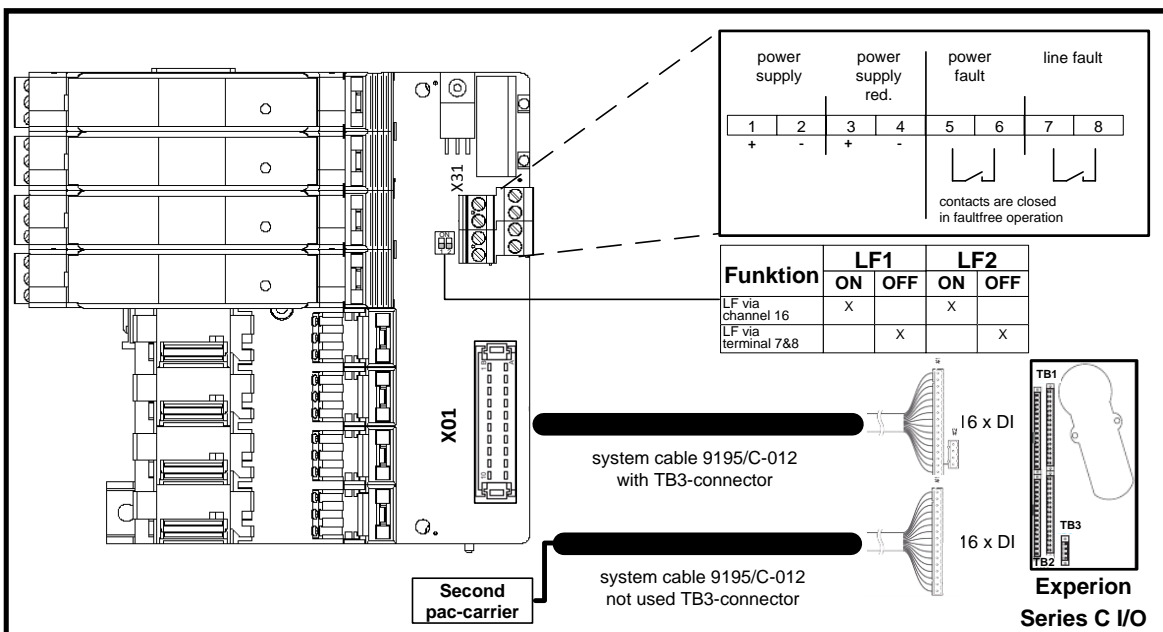
05179E00

Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via system specific connection boards and system cables.

System overview

	power supply		power supply red.		power fault		line fault	
1	2	3	4	5	6	7	8
+	-	+	-				

contacts are closed in faultfree operation

Funktion	LF1		LF2	
	ON	OFF	ON	OFF
LF via channel 16	X		X	
LF via terminal 7&8		X		X

X31

X01

Second pac-carrier

system cable 9195/C-012 with TB3-connector

16 x DI

system cable 9195/C-012 not used TB3-connector

16 x DI

TB1

TB3

TB2

Experion Series C I/O

Selection table								
Control system				**pac-Carrier**				
DCS manufacturer	DCS type	I/O cards type	Channels	Channels	Slots	Stahl Cable type	ISpac	Type
Honeywell	Experion Series C	CC-TDIL01 CC-TDIL11	32 x DI	2 x 16	2 x 8	2 x 9195/C-012	9170/20-10-11	2 x 9195/12A-HY1-03B8

Technical data

Certificates **Explosion protection** **Installation**	BVS 03 ATEX E213 X ⟨Ex⟩ II 3 G Ex nA nC II T4 In Zone 2, Zone 22 (non conductible dust), Div. 2 and in the safe area
Power supply Nominal voltage U_N Redundant supply Indication Fuse Polarity reversal protection	**(X31)** 24 V DC (19 V … 31,2 V) yes, decoupled with diodes 2 LED green „PWR1"; „PWR2" 2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply yes
Connection field devices Connection Number of channels	at the terminals of the I.S. isolators (see "signal loops") up to 16
Connection automation system Connection Number of channels	**(X01)** Tyco 20pin Dynamic series for 9195/C-012 up to 16
Error messaging Power supply failure PF Line fault LF (of ISpac modules)	**(X31)** Contact (35 V / 100 mA), closed in good conditions Contact (35 V / 100 mA), closed in good conditions
DIP switch Line fault "ON" Line fault "OFF"	**(B001)** LF via channel 16 of pac- Carrier LF via terminal 7 & 8 of pac- Carrier
Ambient conditions Ambient temperature Storage temperature Relative humidity (no condensation)	max. - 20 °C ... + 70 °C (see specification of the I.S. isolators) - 40 °C ... + 80 °C ≤95 %
Mechanical data Weight Mounting type Mounting position Casing / Terminal protection class Casing material Fire protecting class (UL-94)	approx. 320 g on DIN rail (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6) horizontal or vertical IP 00 / IP 20 PA 6.6 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
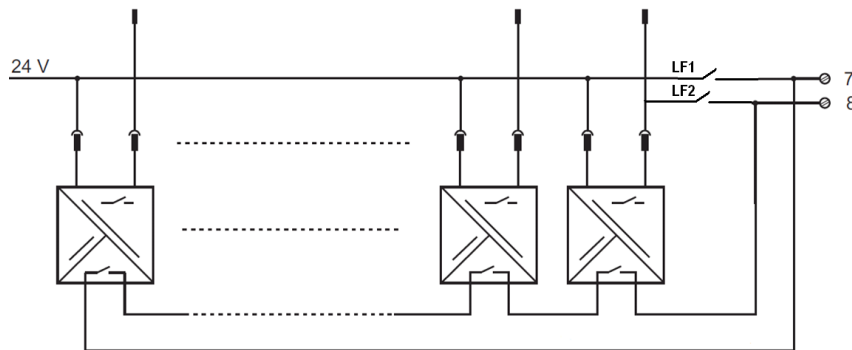- relay output

9170/20-10-11

Line fault detection alarms

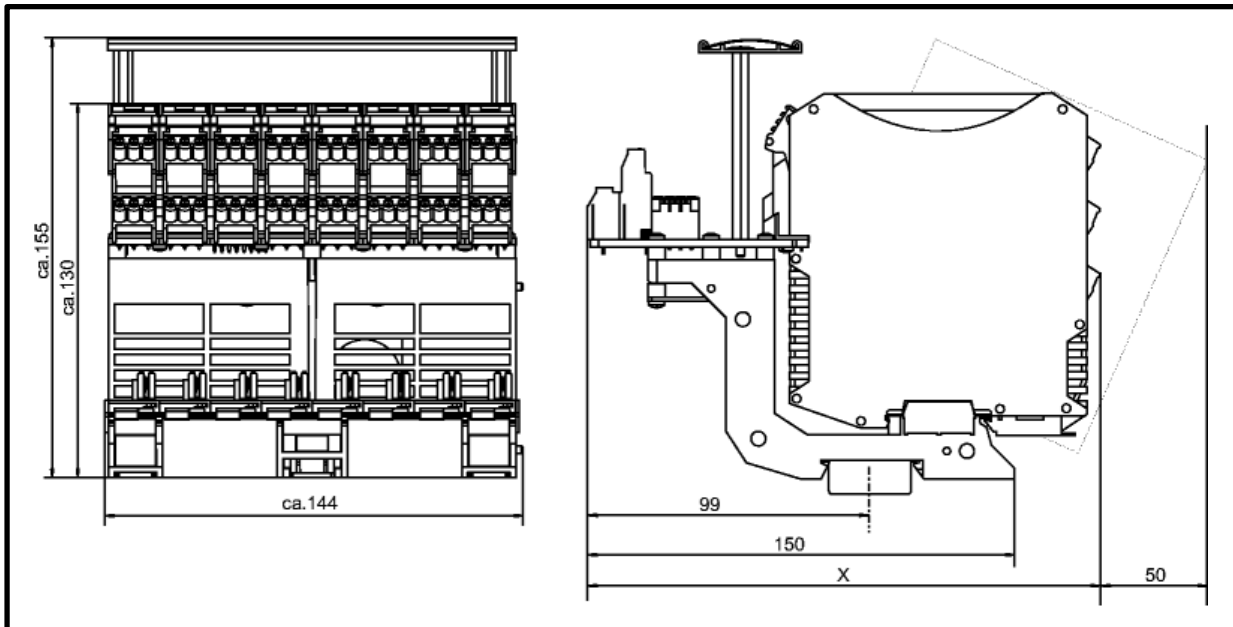Where LFD alarm contacts are available

- These are routed into the last channel (Channel #16) on the pac- Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- These are routed into the terminal 7 and 8 on the pac- Carrier (switch LF1 and LF2 OFF).

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**
System cable		Customized system cable type 9195/C-012 for Honeywell I/O Module with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey. Each cable has the 0V wire (White) for connection to TB3. This wire from the connector on channels 1-16 can be extended and connected into TB3 with the wire from TB2 cable, or trimmed back as required.	**9195/C-012**

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 from: www.ispac.info.

Connection list

For 2 Ch. ISpac modules DI 16 x 24 V

Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16 Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		PWR	1)		
2	14	+		+	B9	4	2
	15	-		PWR	1)		
3	10	+	2	+	A8	6	3
	11	-		PWR	1)		
4	14	+		+	B8	8	4
	15	-		PWR	1)		
5	10	+	3	+	A7	10	5
	11	-		PWR	1)		
6	14	+		+	B7	12	6
	15	-		PWR	1)		
7	10	+	4	+	A6	14	7
	11	-		PWR	1)		
8	14	+		+	B6	16	8
	15	-		PWR	1)		
9	10	+	5	+	A5	18	9
	11	-		PWR	1)		
10	14	+		+	B5	20	10
	15	-		PWR	1)		
11	10	+	6	+	A4	22	11
	11	-		PWR	1)		
12	14	+		+	B4	24	12
	15	-		PWR	1)		
13	10	+	7	+	A3	26	13
	11	-		PWR	1)		
14	14	+		+	B3	28	14
	15	-		PWR	1)		
15 [2]	10	+	8	+	A2	30	15
	11	-		PWR	1)		
16 [2]	14	+		+	B2	32	16
	15	-		PWR	1)		
						TB3 4-Pin connector	
connected to PWR (-)					A10	4	1-16

1) connected to PWR (+)
2) If switch B001 on pac-carrier switched ON, channel 16 for fault message is used. In this case use only a one-channel switching repeater in slot 8

**pac-Carrier
Type 9195/21A-HY1-03B8**

- **For Honeywell Experion Series C I/O**
- Signal types: 16 x DI
- pac-Carrier for 16 modules, up to 16 signals
- ISpac isolator 9170/10-11-11can be used
- Customized system cable type
  9195/C-012 to automation systems
- Redundant power supply with message contact and exchangeable fuses
- Collective error messaging and power supply failure are on system connector switchable
- 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
- LFD is routed into the last channel on the pac-Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
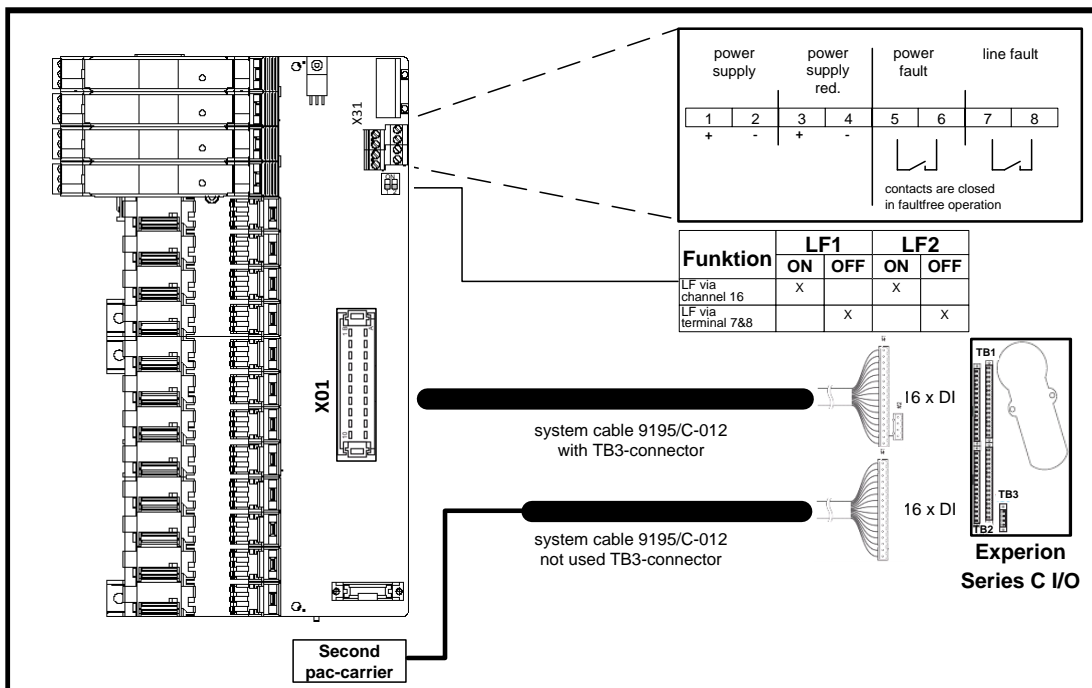
Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via system specific connection boards and system cables.
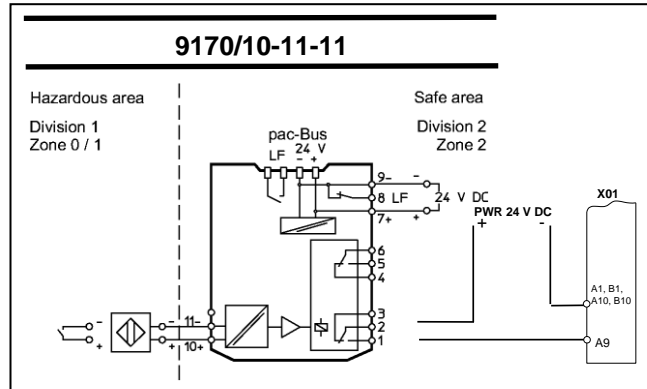
05179E00

STAHL

System overview

Selection table

Control system				pac-Carrier				
DCS manufacturer	DCS type	I/O cards type	Channels	Channels	Slots	Stahl Cable type	ISpac	Type
Honeywell	Experion Series C	CC-TDIL01 CC-TDIL11	32 x DI	2 x 16	2 x 16	2 x 9195/C-012	9170/10-11-11	2 x 9195/21A-HY1-03B8

Technical data

Certificates	BVS 03 ATEX E213 X
Explosion protection	⟨Ex⟩ II 3 G Ex nA nC II T4
Installation	In Zone 2, Zone 22 (non conductible 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)**
Connection	Tyco 20pin Dynamic series for 9195/C-012
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
DIP switch	**(B001)**
Line fault "ON"	LF via channel 16 of pac- Carrier
Line fault "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

STAHL

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)

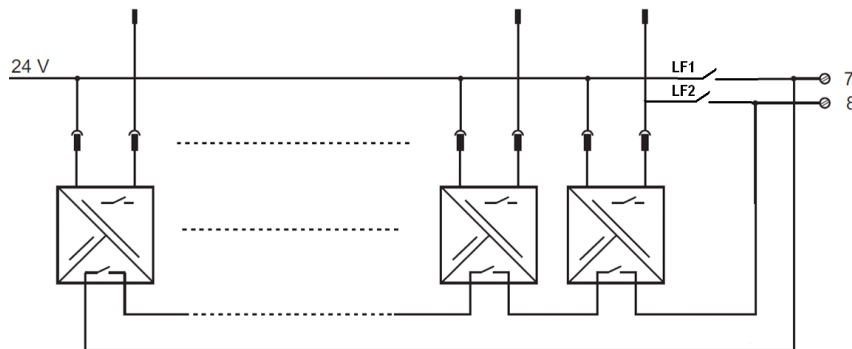for NAMUR proximity switches and contacts
- relay output

9170/10-11-11

Line fault detection alarms

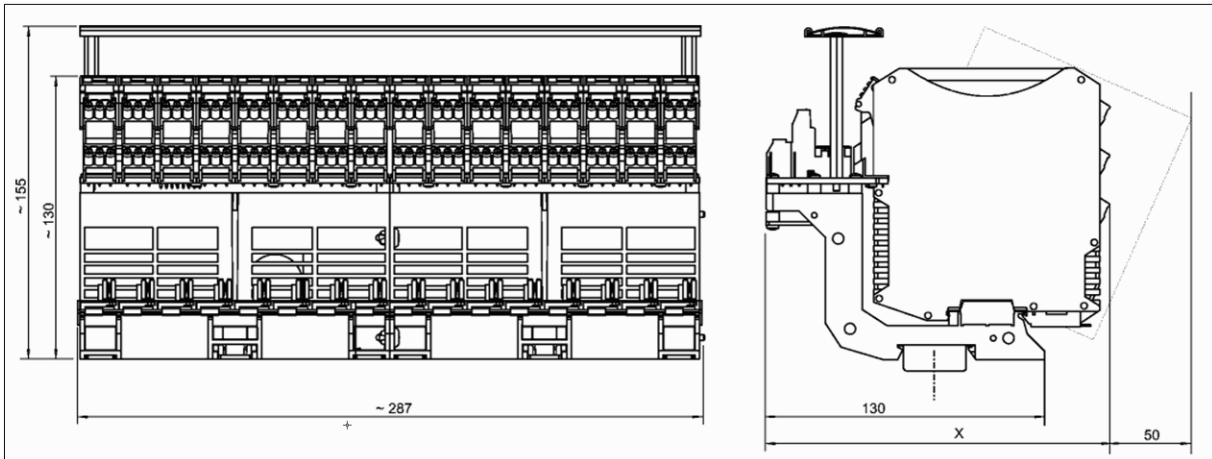Where LFD alarm contacts are available

- These are routed into the last channel (Channel #16) on the pac- Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- These are routed into the terminal 7 and 8 on the pac- Carrier (switch LF1 and LF2 OFF).

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**
System cable		Customized system cable type 9195/C-012 for Honeywell I/O Module with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey. Each cable has the 0V wire (White) for connection to TB3. This wire from the connector on channels 1-16 can be extended and connected into TB3 with the wire from TB2 cable, or trimmed back as required.	**9195/C-012**

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 from: www.ispac.info.

Connection list

For 1 Ch. ISpac modules DI 16 x 24 V

1) connected to PWR (+)
2) If switch B001 on pac-carrier switched ON, channel 16 for fault message is used. In this case slot 16 leave unequipped.

Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16 Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		PWR	1)		
2	10	+	2	+	B9	4	2
	11	-		PWR	1)		
3	10	+	3	+	A8	6	3
	11	-		PWR	1)		
4	10	+	4	+	B8	8	4
	11	-		PWR	1)		
5	10	+	5	+	A7	10	5
	11	-		PWR	1)		
6	10	+	6	+	B7	12	6
	11	-		PWR	1)		
7	10	+	7	+	A6	14	7
	11	-		PWR	1)		
8	10	+	8	+	B6	16	8
	11	-		PWR	1)		
9	10	+	9	+	A5	18	9
	11	-		PWR	1)		
10	10	+	10	+	B5	20	10
	11	-		PWR	1)		
11	10	+	11	+	A4	22	11
	11	-		PWR	1)		
12	10	+	12	+	B4	24	12
	11	-		PWR	1)		
13	10	+	13	+	A3	26	13
	11	-		PWR	1)		
14	10	+	14	+	B3	28	14
	11	-		PWR	1)		
15[2]	10	+	15	+	A2	30	15
	11	-		PWR	1)		
16[2]	10	+	16	+	B2	32	16
	11	-		PWR	1)		
						TB3 4-Pin connector	
connected to PWR (-)					A10	4	1-16

pac-Carrier
Type 9195/22A-HY1-03B8

- **For Honeywell Experion Series C I/O**
- Signal types: 32 x DI
- pac-Carrier for 16 modules, up to 32 signals
- ISpac isolator 9170/20-10-11can be used
- Customized system cable type
  9195/C-012 to automation systems
- Redundant power supply with message contact and
  exchangeable fuses
- Collective error messaging and power supply failure
  are on system connector switchable
- 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
- LFD is routed into the last channel on the pac-
  Carrier; this avoids any external wiring of these
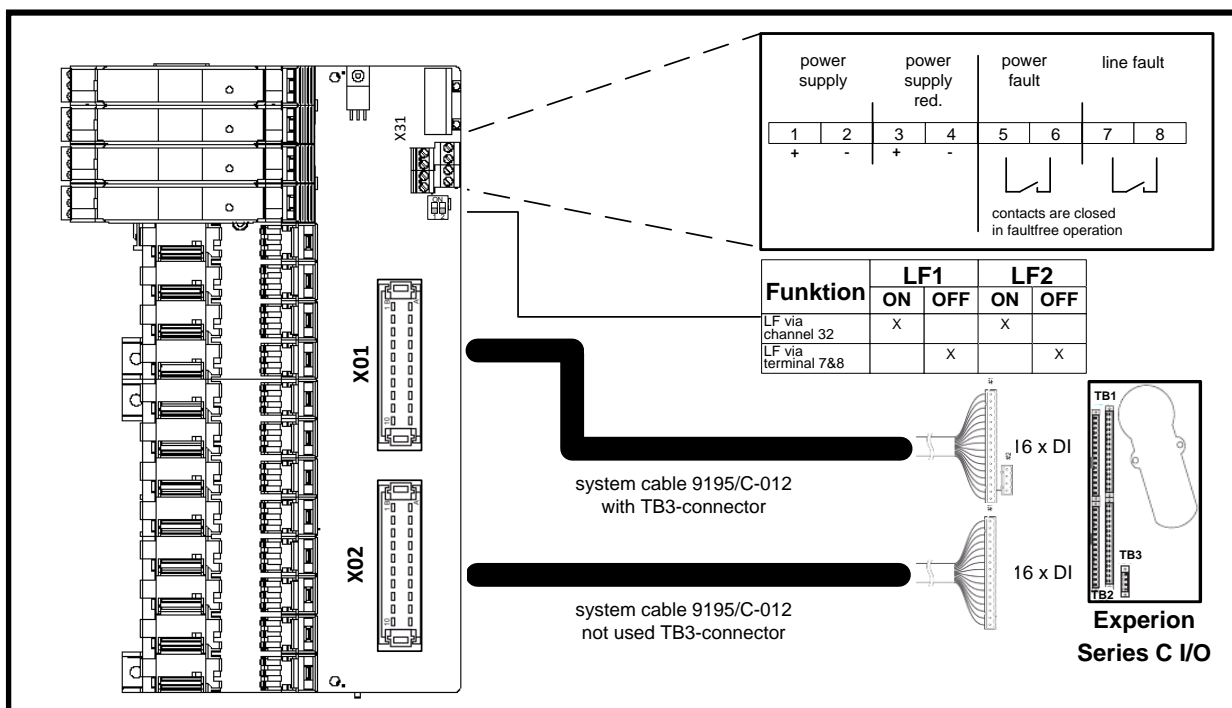 alarm signals (switch LF1 and LF2 ON).

05179E00

Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via
system specific connection boards and system cables.

STAHL

System overview

power supply		power supply red.		power fault		line fault	
1	2	3	4	5	6	7	8
+	-	+	-				

contacts are closed
in faultfree operation

Funktion	LF1		LF2	
	ON	OFF	ON	OFF
LF via channel 32	X		X	
LF via terminal 7&8		X		X

system cable 9195/C-012
with TB3-connector

16 x DI

system cable 9195/C-012
not used TB3-connector

16 x DI

Experion Series C I/O

Selection table

Control system				pac-Carrier				
DCS manufacturer	DCS type	I/O cards type	Channels	Channels	Slots	Stahl Cable type	ISpac	Type
Honeywell	Experion Series C	CC-TDIL01 CC-TDIL11	32 x DI	1 x 32	1 x 16	1 x 9195/C-012	9170/20-11-11	1 x 9195/22A-HY1-03B8

Technical data

Certificates	BVS 03 ATEX E213 X
Explosion protection	⟨Ex⟩ II 3 G Ex nA nC II T4
Installation	In Zone 2, Zone 22 (non conductible 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	up to 32

Connection automation system	**(X01)**
Connection	Tyco 20pin Dynamic series for 9195/C-012
Number of channels	up to 16

Connection automation system	**(X02)**
Connection	Tyco 20pin Dynamic series for 9195/C-012
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

DIP switch	**(B001)**
Line fault "ON"	LF via channel 16 of pac- Carrier
Line fault "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 %

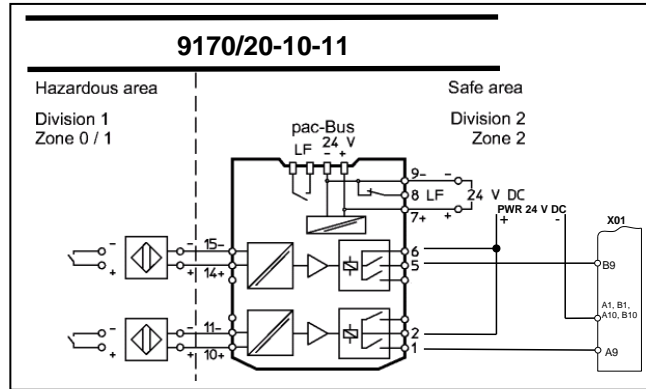|	
Mechanical data	
Weight	approx. 320 g
Mounting type	on DIN rail (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6)
Mounting position	horizontal or vertical
Casing / Terminal protection class	IP 00 / IP 20
Casing material	PA 6.6
Fire protecting class (UL-94)	V0

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.
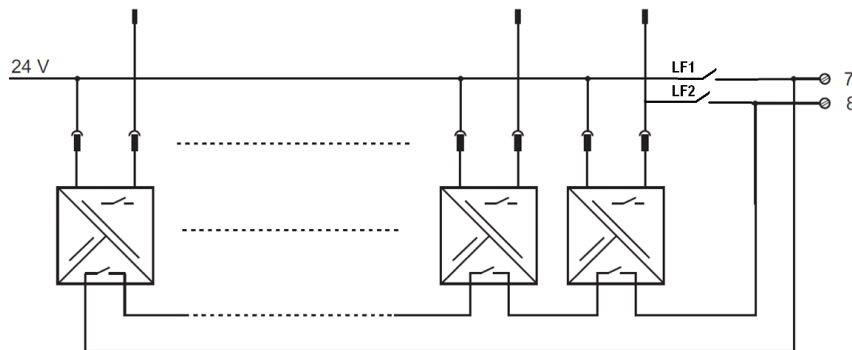
Switching repeater (DI)

for NAMUR proximity switches and contacts
- relay output

Line fault detection alarms

Where LFD alarm contacts are available

- These are routed into the last channel (Channel #32) on the pac- Carrier; this avoids any external wiring of these alarm signals (switch LF1 and LF2 ON).
- These are routed into the terminal 7 and 8 on the pac- Carrier (switch LF1 and LF2 OFF).

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**
System cable		Customized system cable type 9195/C-012 for Honeywell I/O Module with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey. Each cable has the 0V wire (White) for connection to TB3. This wire from the connector on channels 1-16 can be extended and connected into TB3 with the wire from TB2 cable, or trimmed back as required.s	**9195/C-012**

Dimension drawings (all dimensions in mm) - subject to alterations
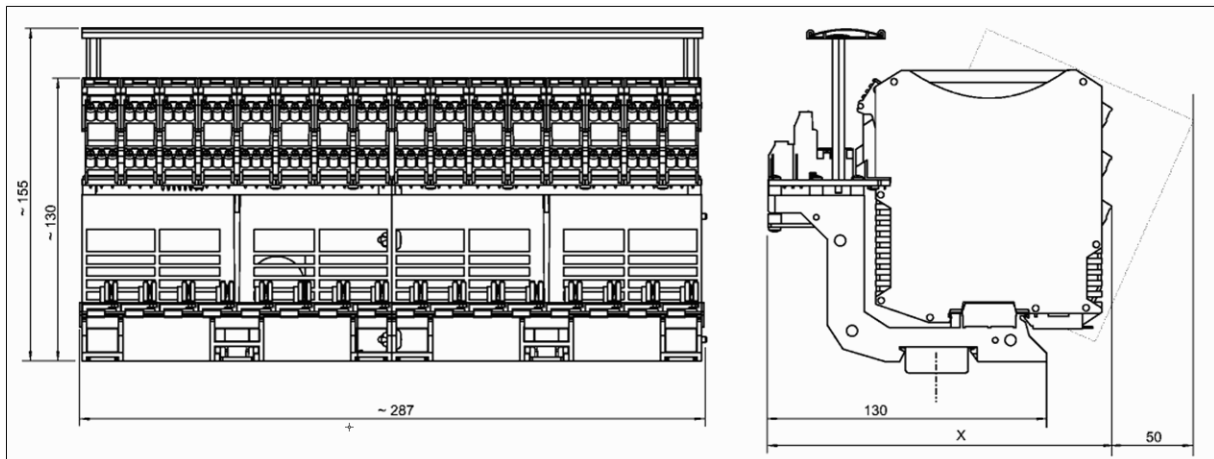
12472E00

	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 from: www.ispac.info.

Connection list

For 1 Ch. ISpac modules DI 32 x 24 V

Channel	Terminal i.s.		Carrier slot	Terminal X02		TB2 16 Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		PWR	1)	10	
2	14	+		+	B9	4	2
	15	-		PWR	1)	10	
3	10	+	2	+	A8	6	3
	11	-		PWR	1)	10	
4	14	+		+	B8	8	4
	15	-		PWR	1)	10	
5	10	+	3	+	A7	12	5
	11	-		PWR	1)	20	
6	14	+		+	B7	14	6
	15	-		PWR	1)	20	
7	10	+	4	+	A6	16	7
	11	-		PWR	1)	20	
8	14	+		+	B6	18	8
	15	-		PWR	1)	20	
9	10	+	5	+	A5	22	9
	11	-		PWR	1)	30	
10	14	+		+	B5	24	10
	15	-		PWR	1)	30	
11	10	+	6	+	A4	26	11
	11	-		PWR	1)	30	
12	14	+		+	B4	28	12
	15	-		PWR	1)	30	
13	10	+	7	+	A3	32	13
	11	-		PWR	1)	40	
14	14	+		+	B3	34	14
	15	-		PWR	1)	40	
15	10	+	8	+	A2	36	15
	11	-		PWR	1)	40	
16	14	+		+	B2	38	16
	15	-		PWR	1)	40	

Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16 Pin connector	Input No.
17	10	+	9	+	A9	2	17
	11	-		PWR	1)		
18	14	+		+	B9	4	18
	15	-		PWR	1)		
19	10	+	10	+	A8	6	19
	11	-		PWR	1)		
20	14	+		+	B8	8	20
	15	-		PWR	1)		
21	10	+	11	+	A7	10	21
	11	-		PWR	1)		
22	14	+		+	B7	12	22
	15	-		PWR	1)		
23	10	+	12	+	A6	14	23
	11	-		PWR	1)		
24	14	+		+	B6	16	24
	15	-		PWR	1)		
25	10	+	13	+	A5	18	25
	11	-		PWR	1)		
26	14	+		+	B5	20	26
	15	-		PWR	1)		
27	10	+	14	+	A4	22	27
	11	-		PWR	1)		
28	14	+		+	B4	24	28
	15	-		PWR	1)		
29	10	+	15	+	A3	26	29
	11	-		PWR	1)		
30	14	+		+	B3	28	30
	15	-		PWR	1)		
31 2)	10	+	16	+	A2	30	31
	11	-		PWR	1)		
32 2)	14	+		+	B2	32	32
	15	-		PWR	1)	40	

TB3 4-Pin connector

		TB3 4-Pin connector	Input No.
connected to PWR (-)	A10	4	1-32

1) connected to PWR (+)
2) If switch B001 on pac-carrier switched ON, channel 32 for fault message is used. In this case use only a one-channel switching repeater in slot 16
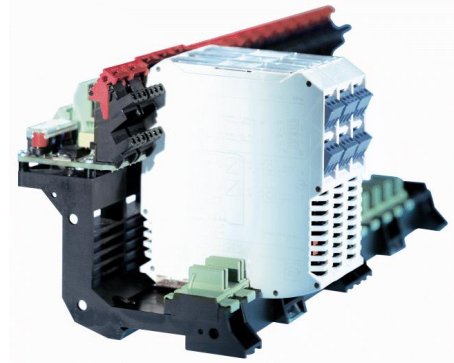
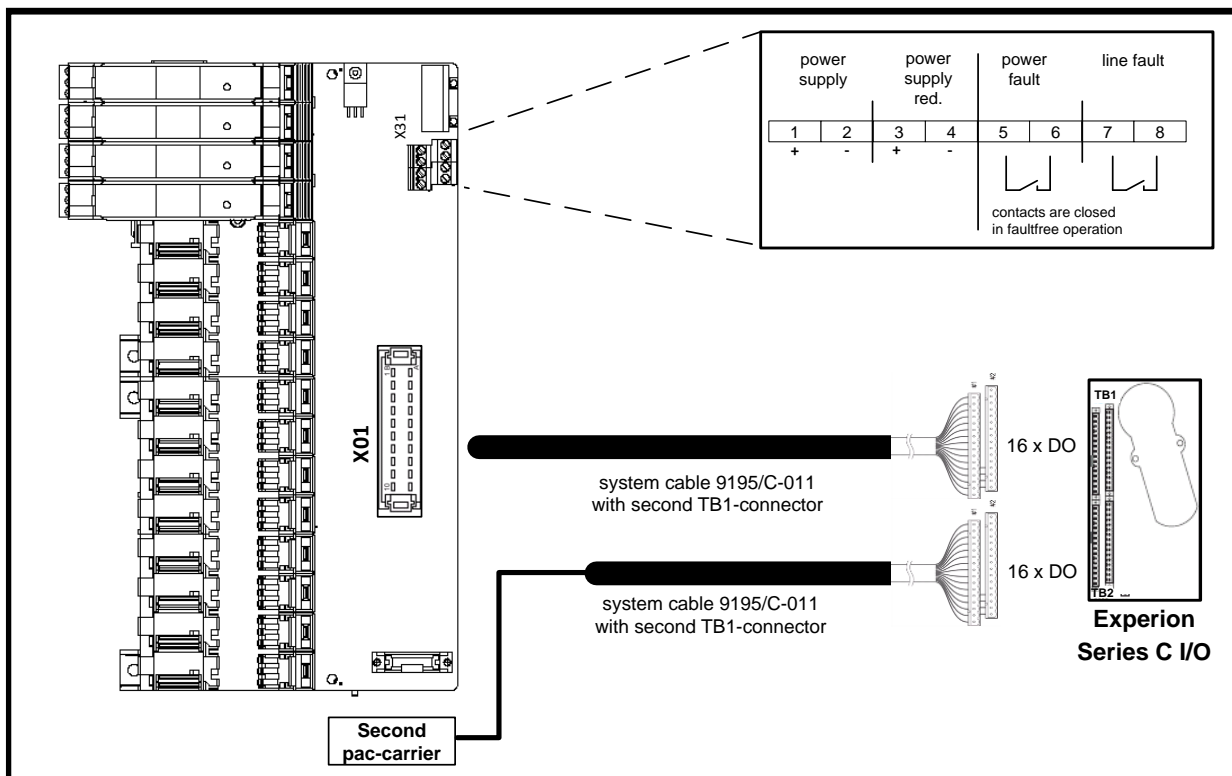**pac-Carrier
Type 9195/21A-HY1-04B8**

- **For Honeywell Experion Series C I/O**
- Signal types: 16 x DO
- pac-Carrier for 16 modules, up to 16 signals
- ISpac isolator 9175/10-1x-11, 9176/10-1x-00, 9172/11-11-00can be used
- Customized system cable type 9195/C-011 to automation systems
- Redundant power supply with message contact and exchangeable fuses
- Collective error messaging and power supply failure are on system connector switchable
- 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

Comfortable and simple integration of the Ex i isolators ISpac into Honeywell automation systems via system specific connection boards and system cables.

05179E00

System overview

STAHL

Selection table								
Control system				**pac-Carrier**				
DCS manufacturer	**DCS type**	**I/O cards type**	**Channels**	**Channels**	**Slots**	**Stahl Cable type**	**ISpac**	**Type**
Honeywell	Experion Series C	CC-TDOLx1	32 x DO	2 x 16	2 x 16	2 x 9195/C-011	9175/10-1x-11 9176/10-1x-00 9172/11-11-00	2 x 9195/21A-HY1-04B8

| Technical data	
Certificates **Explosion protection** **Installation**	BVS 03 ATEX E213 X ⟨Ex⟩ II 3 G Ex nA nC II T4 In Zone 2, Zone 22 (non conductible dust), Div. 2 and in the safe area
Power supply Nominal voltage U_N Redundant supply Indication Fuse Polarity reversal protection	**(X31)** 24 V DC (19 V … 31,2 V) yes, decoupled with diodes 2 LED green „PWR1"; „PWR2" 2 x TR5; T 2,0 A; exchangeable, for primary and redundant supply yes
Connection field devices Connection Number of channels	at the terminals of the I.S. isolators (see "signal loops") 16
Connection automation system Connection Number of channels	**(X01)** Tyco 20pin Dynamic series for 9195/C-011 up to 16
Error messaging Power supply failure PF Line fault LF (of ISpac modules)	**(X31)** Contact (35 V / 100 mA), closed in good conditions Contact (35 V / 100 mA), closed in good conditions
Ambient conditions Ambient temperature Storage temperature Relative humidity (no condensation)	max. - 20 °C ... + 70 °C (see specification of the I.S. isolators) - 40 °C ... + 80 °C ≤95 %
Mechanical data Weight Mounting type Mounting position Casing / Terminal protection class Casing material Fire protecting class (UL-94)	approx. 320 g on DIN rail (NS35 / 15, NS35 / 7.5) or mounting plate (4 x screw M6) horizontal or vertical IP 00 / IP 20 PA 6.6 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.
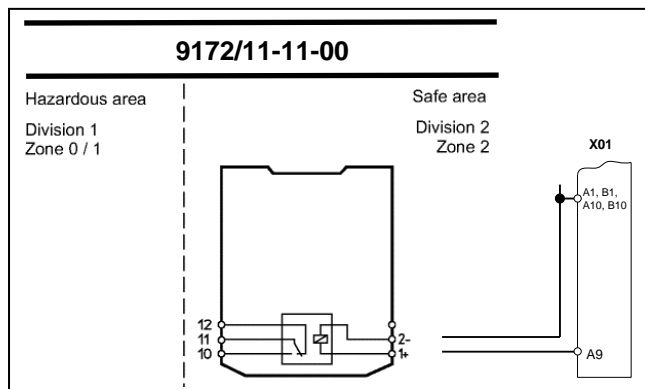
Digital output (DO)
for solenoid valves and indicators
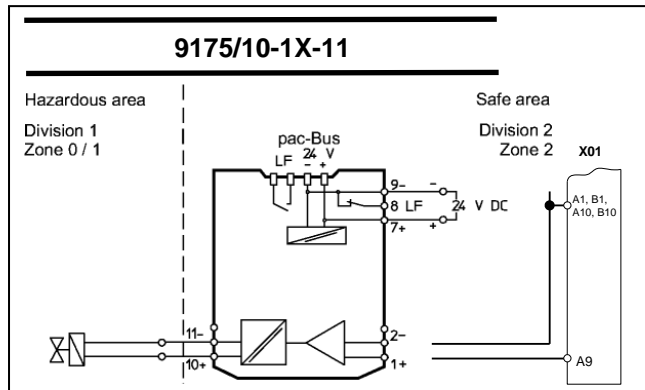
Digital output (DO)
for solenoid valves and indicators
- loop powered
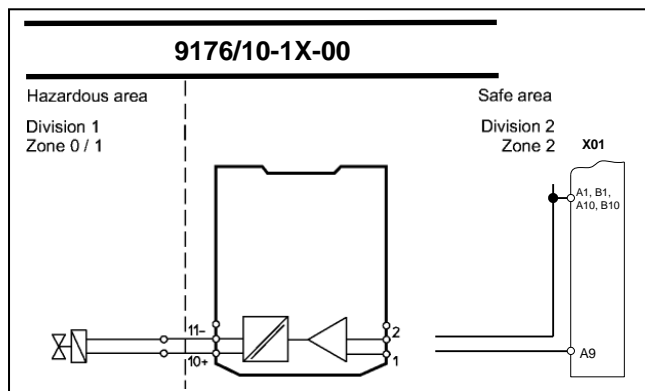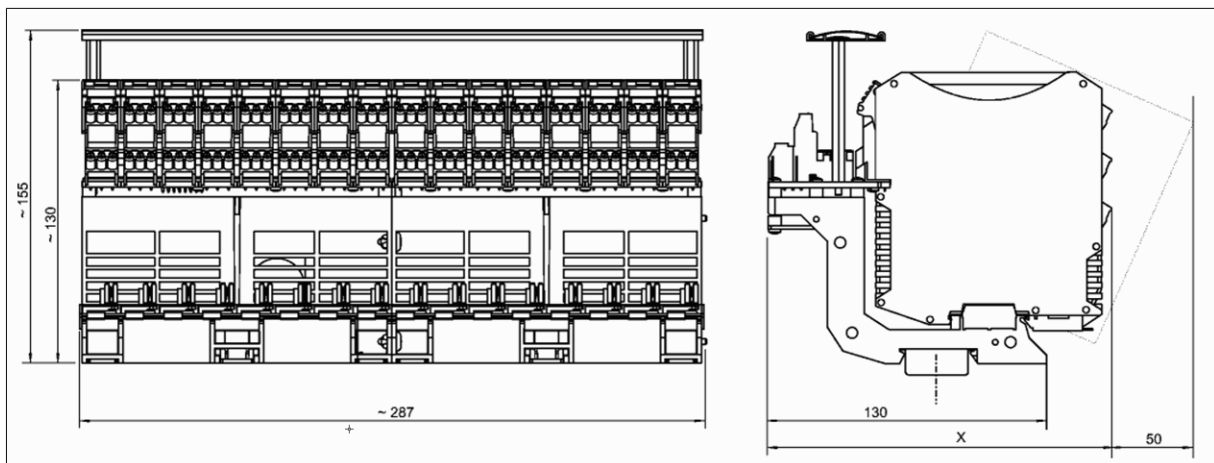

Relay Module (DO)
For digital Signals and control circuits

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**
System cable		Customized system cable type 9195/C-011 for Honeywell I/O Module (CC-TAOXx1) with Tyco 20pin Dynamic series System cable 20x0,32 mm² (AWG 22) grey	**9195/C-011**

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 from: www.ispac.info.

Connection list

For 1 Ch. ISpac modules DO 16 x 24 V

1)   connected to PWR (+)

Channel	Terminal i.s.		Carrier slot	Terminal X01		TB1 16 Pin connector	Input No.
1	10	+	1	+	A9	2	1
	11	-		PWR	1)		
2	10	+	2	+	B9	4	2
	11	-		PWR	1)		
3	10	+	3	+	A8	6	3
	11	-		PWR	1)		
4	10	+	4	+	B8	8	4
	11	-		PWR	1)		
5	10	+	5	+	A7	10	5
	11	-		PWR	1)		
6	10	+	6	+	B7	12	6
	11	-		PWR	1)		
7	10	+	7	+	A6	14	7
	11	-		PWR	1)		
8	10	+	8	+	B6	16	8
	11	-		PWR	1)		
9	10	+	9	+	A5	18	9
	11	-		PWR	1)		
10	10	+	10	+	B5	20	10
	11	-		PWR	1)		
11	10	+	11	+	A4	22	11
	11	-		PWR	1)		
12	10	+	12	+	B4	24	12
	11	-		PWR	1)		
13	10	+	13	+	A3	26	13
	11	-		PWR	1)		
14	10	+	14	+	B3	28	14
	11	-		PWR	1)		
15	10	+	15	+	A2	30	15
	11	-		PWR	1)		
16	10	+	16	+	B2	32	16
	11	-		PWR	1)		
						TB1 16-Pin connector	
connected to PWR (-)				A1	5		1-16
				B1	7		
				A10	1		
				B10	3		

STAHL

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

Notes:

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Notes:

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