

Read these instructions before using the product and retain for future information.



Allen-Bradley

Installation Instructions

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Passive Isolator, 1 Channel 931H-A1A1N-IP

DIR 10000043423
(Version 00)



10000043423

1. General instructions

WARNING

- Disconnect power prior to installation
- Installation only by Qualified personnel
- Follow all applicable local and national electrical codes



Appropriate safety measures against electrostatic discharge (ESD) should be taken during assembly and adjustment.

2. Application

931H-A1A1N-IP can be used for the galvanic isolation of standard 0(4) ... 20 mA signals.

They are supplied by the measured signal and require no additional auxiliary supply.

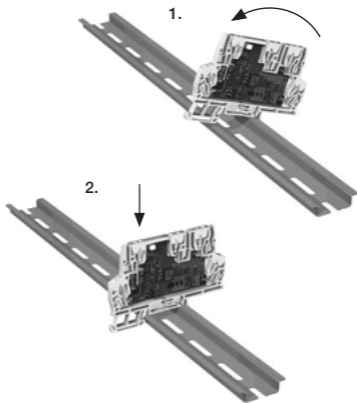
The measured signal is transmitted in a ratio of 1:1.

3. Mounting

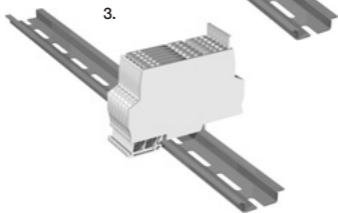
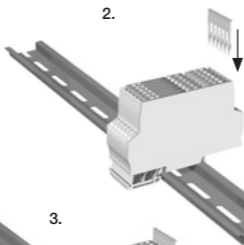
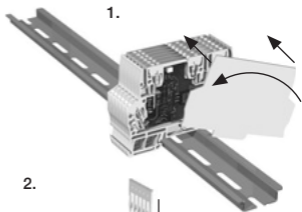
931H-A1A1N-IP can be mounted on standard TS 35 rails.

Refer to the following sections for individual mounting steps.

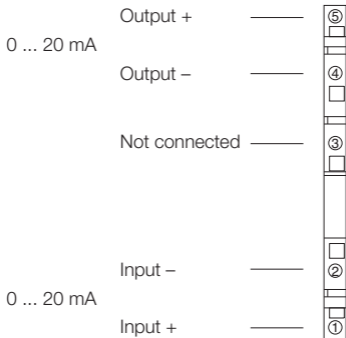
3.1 Mounting on standard rail TS 35



3.2 Mounting of end plate and plug-in jumper



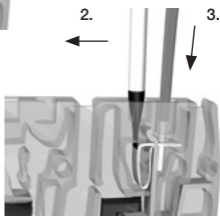
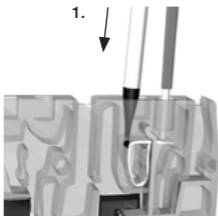
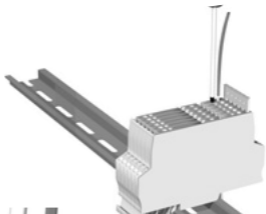
4. Electrical connection



4.1 Equipment

A screwdriver with a width of up to 3 mm is required to connect the wires to the tension clamp terminals.

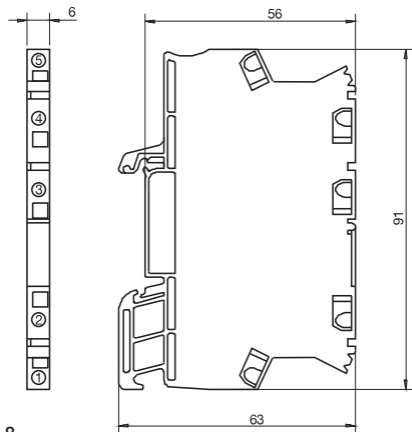
4.2 Wiring



4.3 Connection data

Wire strip length	8 mm ± 0.5
Wire cross sections	
solid	0.5 ... 2.5 mm ²
stranded	0.5 ... 2.5 mm ²
with wire-end ferrule	0.5 ... 1.5 mm ²

5. Dimensions



6. Technical Data

Input

Input voltage	0 ... 20 mA max. 15 V
Operating current	< 100 μ A
Voltage drop	2.5 ... 3 V (at 20 mA)
Input overload capacity	max. 50 mA, 15 V

Output

Load	0 ... 20 mA, max. 10 V 500 Ω
Response time (to reach 99% program value)	approx. 5 ms for a load of 500 Ω
Residual ripple	< 10 mV _{eff}

General data

Chopper frequency	approx. 200 kHz
Transmission errors	< 0.1 % of end value + 0.05 % of measured value / 100 Ω load
Temperature effect ¹⁾	50 ppm/K from measured value for a load of 0 Ω

Test voltage

Input / output	510 V AC, 50 Hz
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EMC²⁾

EMC directive
EN 61 326
EN 61 326/A1

Ambient temperature

Operation	-25 °C ... +60 °C
Storage	-40 °C ... +85 °C

- 1) Medium temperature coefficient in the specified operating temperature range (-25 °C ... +60 °C)
- 2) Valid for 4 ... 20 mA; minor deviations are possible during interferences.

7. Ordering Data

Accessories

End Barrier	931H-EB1
Plug-In Jumper	
Plug-In Jumper, 2-pole, yellow	1492-CJLJ6-2
Plug-In Jumper, 3-pole, yellow	1492-CJLJ6-3
Plug-In Jumper, 4-pole, yellow	1492-CJLJ6-4
Plug-In Jumper, 5-pole, yellow	1492-CJLJ6-5
Plug-In Jumper, 6-pole, yellow	1492-CJLJ6-6
Plug-In Jumper, 7-pole, yellow	1492-CJLJ6-7
Plug-In Jumper, 8-pole, yellow	1492-CJLJ6-8
Plug-In Jumper, 9-pole, yellow	1492-CJLJ6-9
Plug-In Jumper, 10-pole, yellow	1492-CJLJ6-10

Lesen Sie diese Beipackinformation bevor Sie das Produkt installieren und heben
Sie diese für weitere Informationen auf.



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Beipackinformation

**Analog Messwandler
931H-A1A1N-IP**

1. Allgemeine Hinweise

ACHTUNG



Bei der Installation ist auf Schutzmaßnahmen gegen elektrostatische Entladung (ESD) zu achten.

Nicht die offene Schaltung berühren!

2. Anwendung

Der 931H-A1A1N-IP dient zur galvanischen Trennung von Normsignalen 0(4) ... 20 mA.

Er versorgt sich aus dem Messsignal und benötigt keine weitere Hilfsenergie.

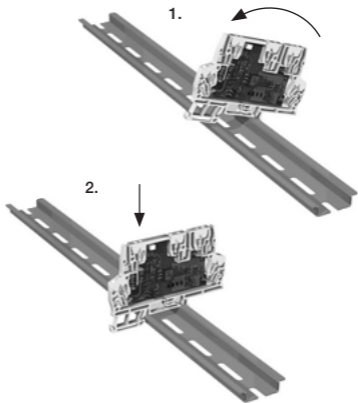
Die Übertragung des Messsignals erfolgt im Verhältnis 1:1.

3. Montage

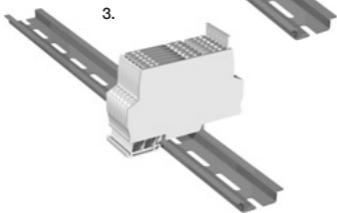
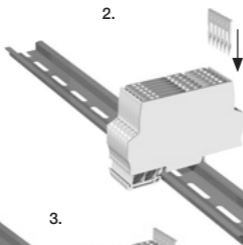
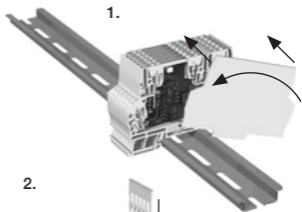
Der 931H-A1A1N-IP wird auf TS 35 Normschienen aufgerastet.

Die Montage ist in den folgenden Abschnitten beschrieben.

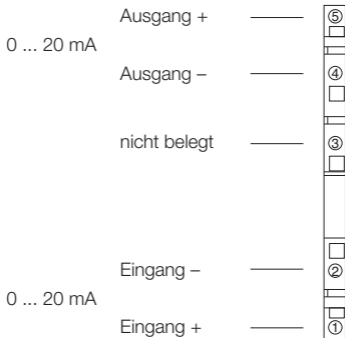
3.1 Aufrasten auf Normschiene TS 35



3.2 Montage der Abschlussplatte und der Querverbindungen



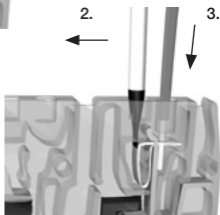
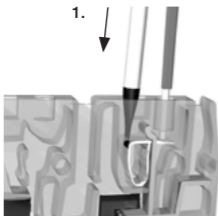
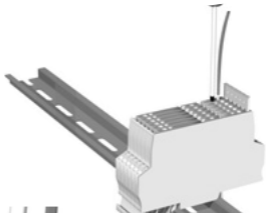
4. Der elektrische Anschluss



4.1 Hilfsmittel

Zum Anschluss der Leitungen an die Zugfederklemmen wird z.B. ein Schraubendreher mit einer Breite von bis zu 3 mm benötigt.

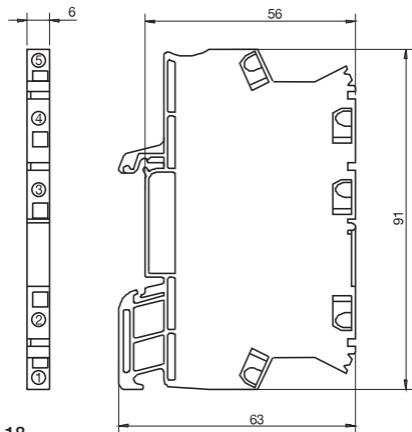
4.2 Leitungen anschließen



4.3 Anschlussdaten

Abisolierlänge	8 mm ± 0,5
Leiterquerschnitte	
eindrätig	0,5 ... 2,5 mm ²
feindrätig	0,5 ... 2,5 mm ²
mit Aderendhülse	0,5 ... 1,5 mm ²

5. Abmessungen



6. Technische Daten

Eingang

Eingangsspannung	0 ... 20 mA
Ansprechstrom	max. 15 V
Spannungsabfall	< 100 μ A
Überlastbarkeit am Eingang	2,5 ... 3 V (bei 20 mA)
	max. 50 mA, 15 V

Ausgang

Bürde	0 ... 20 mA, max. 10 V
Reaktionzeit (wenn der Ausgangswert 99% erreicht)	500 Ω
Restwelligkeit	ca. 5 ms bei 500 Ω Bürde
	< 10 mV _{eff}

Allgemeine Daten

Chopperfrequenz	ca. 200 kHz
Übertragungsfehler	< 0,1 % vom Endwert + 0,05 % vom Messwert / 100 Ω Bürde
Temperatureinfluss ¹⁾	50 ppm/K vom Messwert bei 0 Ω Bürde

Prüfspannung

Eingang / Ausgang	510 V AC, 50 Hz
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EMV²⁾

EMVG
EN 61 326
EN 61 326/A1

Umgebungstemperatur

Betrieb	-25 °C ... +60 °C
Lagerung	-40 °C ... +85 °C

- 1) Mittlerer Temperaturkoeffizient im spezifizierten Betriebstemperaturbereich -25 °C ... + 60 °C
- 2) Gilt für 4 ... 20 mA; während der Störeinwirkung sind geringe Abweichungen möglich.

7. Bestelldaten

Zubehör

Abschlussplatte	931H-EB1
Querverbindung	
Plug-In Jumper, 2-polig, gelb	1492-CJLJ6-2
Plug-In Jumper, 3-polig, gelb	1492-CJLJ6-3
Plug-In Jumper, 4-polig, gelb	1492-CJLJ6-4
Plug-In Jumper, 5-polig, gelb	1492-CJLJ6-5
Plug-In Jumper, 6-polig, gelb	1492-CJLJ6-6
Plug-In Jumper, 7-polig, gelb	1492-CJLJ6-7
Plug-In Jumper, 8-polig, gelb	1492-CJLJ6-8
Plug-In Jumper, 9-polig, gelb	1492-CJLJ6-9
Plug-In Jumper, 10-polig, gelb	1492-CJLJ6-10

Lisez cette notice d'utilisation avant d'installer le produit et gardez cette fiche pour obtenir des informations additionnelles.



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Notice d'utilisation

Convertisseur analogique 931H-A1A1N-IP

1. Indications générales

ATTENTION



Lors de l'installation, il est nécessaire de considérer des précautions contre décharges électrostatiques.

Ne pas toucher le câblage ouvert!

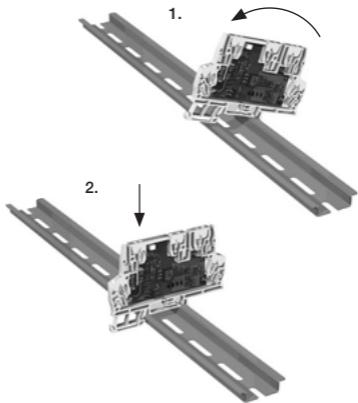
2. Utilisation

Le 931H-A1A1N-IP est utilisé pour l'isolation galvanique des signaux standard 0(4) ... 20 mA. Il est alimenté par le signal mesuré et n'est pas besoin de l'énergie auxiliaire supplémentaire. La transmission du signal mesuré est réalisée à raison de 1:1.

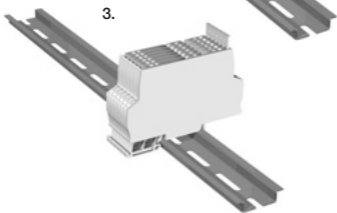
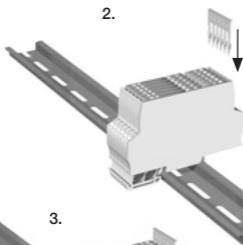
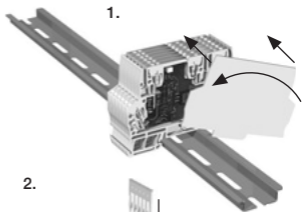
3. Montage

Les 931H-A1A1N-IP peuvent aussi bien être montés sur des rails de norme DIN TS 35. Le montage est décrit aux sections suivantes.

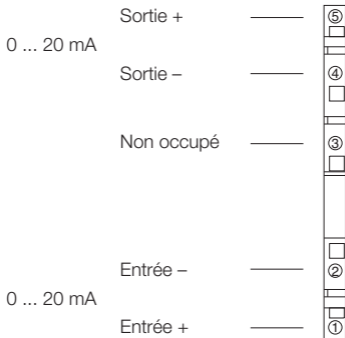
3.1 Encliquetage sur rail de norme TS 35



3.2 Montage de la plaque de fermeture et de la connexion transversale



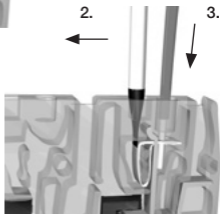
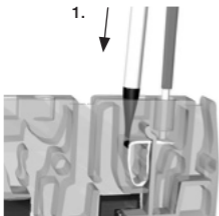
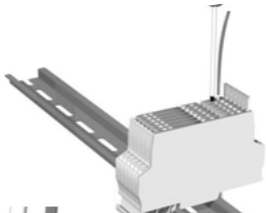
4. Raccordement électrique



4.1 Accessoires

Pour raccorder les conducteurs aux bornes à ressort de traction on peut utiliser un tournevis avec une étendue jusqu'à 3 mm.

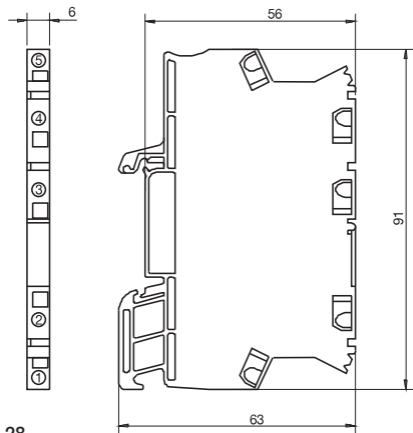
4.2 Raccordement de conducteurs



4.3 Données de connexion

Longueur dénudée	8 mm ± 0,5
Sections de conducteur	
unifilaire	0,5 ... 2,5 mm ²
à fils de faible diamètre	0,5 ... 2,5 mm ²
avec embout de protection	0,5 ... 1,5 mm ²

5. Dimensions



6. Données techniques

Entrée

Tension d'entrée	0 ... 20 mA max. 15 V
Courant actif	< 100 μ A
Chute de tension	2,5 ... 3 V (à 20 mA)
Capacité de surcharge à l'entrée	max. 50 mA, 15 V

Sortie

Charge	0 ... 20 mA , max. 10 V 500 Ω
Temps de réponse (Pour atteindre 99% de la valeur programmée)	approximatif 5 ms pour une charge de 500 Ω
Ondulation résiduelle	< 10 mV _{eff}

Données générales

Fréquence de vibreur	env. 200 kHz
Erreur de transmission	< 0,1 % de la valeur finale + 0,05 % de la valeur mesurée / 100 Ω charge
Effet de température ¹⁾	50 ppm/K de la valeur mesurée à 0 Ω charge

Tension d'essai

Entrée/ sortie	510 V CA, 50 Hz
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CEM²⁾

directive CEM
EN 61 326
EN 61 326/A1

Température ambiante

Température de fonctionnement	-25 °C ... +60 °C
Température de stockage	-40 °C ... +85 °C

- 1) Coefficient de température moyen à la gamme de température spécifiée -25 °C ... +60 °C
- 2) Valable pour 4 ... 20 mA; faibles déviations peuvent se produire lors des perturbations.

7. Référence

Accessoires

Plaque de fermeture	931H-EB1
Connexion transversale	
Plug-In Jumper, 2-polaire, jaune	1492-CJLJ6-2
Plug-In Jumper, 3-polaire, jaune	1492-CJLJ6-3
Plug-In Jumper, 4-polaire, jaune	1492-CJLJ6-4
Plug-In Jumper, 5-polaire, jaune	1492-CJLJ6-5
Plug-In Jumper, 6-polaire, jaune	1492-CJLJ6-6
Plug-In Jumper, 7-polaire, jaune	1492-CJLJ6-7
Plug-In Jumper, 8-polaire, jaune	1492-CJLJ6-8
Plug-In Jumper, 9-polaire, jaune	1492-CJLJ6-9
Plug-In Jumper, 10-polaire, jaune	1492-CJLJ6-10

Lea la presente información antes de instalar el producto y consérvela para
informaciones adicionales.



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Hoja adicional

Convertidor análogo 931H-A1A1N-IP

1. Indicaciones generales

¡ATENCIÓN!



Durante la instalación se tiene que fijarse en las medidas protectoras contra descarga electrostática (ESD).
¡No toque la conexión abierta!

2. Aplicación

El 931H-A1A1N-IP sirve a la separación galvánica de señales de norma 0(4) ... 20 mA. Se alimenta de la señal de medida y no necesita energía auxiliar ulterior.

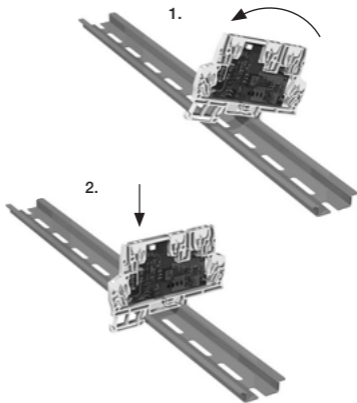
La transmisión de la señal de medida se efectúa con la relación 1:1.

3. Montaje

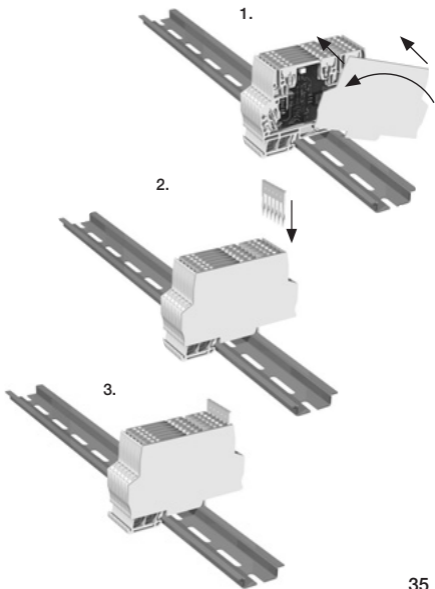
El 931H-A1A1N-IP puede instalarse encima de las subbases estandarizadas TS 35.

El montaje se describe en los párrafos siguientes.

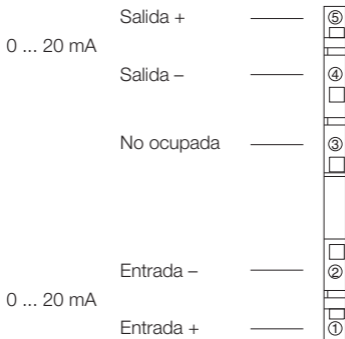
3.1 Montaje sobre subbases estandarizadas TS 35



3.2 Montaje de la placa terminal y de las conexiones transversales



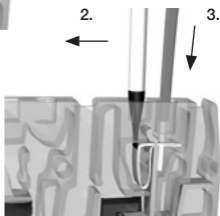
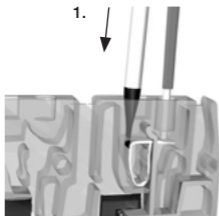
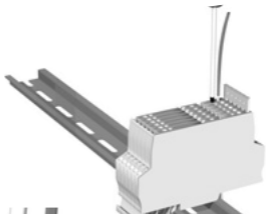
4. La conexión eléctrica



4.1 Accesorios

Para la conexión de las líneas con los bornes de muelles de tracción se necesita por ejemplo un destornillador con una largura hasta 3 mm.

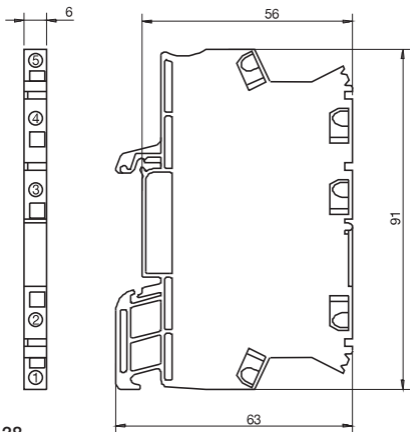
4.2 Conexión de las líneas



4.3 Datos de conexión

Largura de aislamiento	8 mm \pm 0,5
Diámetros de conductor	
de un hilo	0,5 ... 2,5 mm ²
de hilo fino	0,5 ... 2,5 mm ²
con terminal tubular	0,5 ... 1,5 mm ²

5. Dimensiones



6. Datos técnicos

Entrada

Voltaje de entrada	0 ... 20 mA máx. 15 V
Corriente de reacción	< 100 μ A
Caída de voltaje	2,5 ... 3 V (a 20 mA)
Sobrecargabilidad en la entrada	máx. 50 mA, 15 V

Salida

Carga	0 ... 20 mA, máx. 10 V 500 Ω
Tiempo de respuesta (para conseguir el 99% del valor programado)	aprox. de 5 ms para una carga de 500 Ω
Ondulación residual	< 10 mV _{eff}

Datos generales

Frecuencia de Chopper	ca. 200 kHz
Errores de transmisión	< 0,1 % del valor final + 0,05 % del valor de medida / carga de 100 Ω
Influencia por la temperatura ¹⁾	50 ppm/K del valor de medida con carga de 0 Ω

Voltaje de prueba

Entrada / salida	510 V AC, 50 Hz
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CEM²⁾

Ley CEM
EN 61 326
EN 61 326/A1

Temperatura ambiental

Temperatura servicio	-25 °C ... +60 °C
Almacenamiento	-40 °C ... +85 °C

- 1) Coeficiente mediano de temperatura en la gama de servicio especificada -25 °C ... +60 °C
- 2) Válido para 4 ... 20 mA; durante la interferencia divergencias menores son posible.

7. Datos para el pedido

Accesorios

Placa terminal	931H-EB1
Conexión transversal	
Plug-In Jumper, bipolar, amarillo	1492-CJLJ6-2
Plug-In Jumper, tripolar, amarillo	1492-CJLJ6-3
Plug-In Jumper, 4-polar, amarillo	1492-CJLJ6-4
Plug-In Jumper, 5-polar, amarillo	1492-CJLJ6-5
Plug-In Jumper, 6-polar, amarillo	1492-CJLJ6-6
Plug-In Jumper, 7-polar, amarillo	1492-CJLJ6-7
Plug-In Jumper, 8-polar, amarillo	1492-CJLJ6-8
Plug-In Jumper, 9-polar, amarillo	1492-CJLJ6-9
Plug-In Jumper, 10-polar, amarillo	1492-CJLJ6-10

Prima di installare il modulo leggere attentamente le istruzioni contenute in questo manuale.



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Istruzioni per l'uso

Convertitore analogico 931H-A1A1N-IP

1. Note generali

ATTENZIONE



Durante l'installazione si deve badare alle misure protettive contro la scarica elettrostatica (ESD).

Non toccare il collegamento aperto!

2. Impiego

Il 931H-A1A1N-IP serve alla separazione galvanica di segnali di norma 0(4) ... 20 mA. Si alimenta dal segnale di misurazione e non necessita energia ausiliare ulteriore.

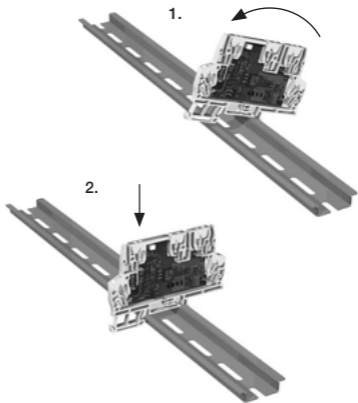
La trasmissione del segnale di misurazione si effettua nella relazione 1:1.

3. Montaggio

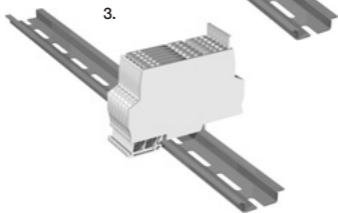
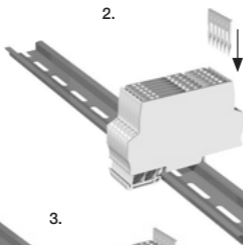
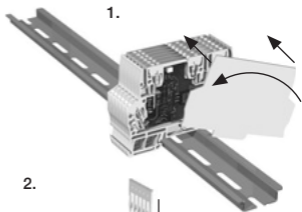
Il 931H-A1A1N-IP può essere montato su guide di supporto TS 35.

Il montaggio viene descritto nei brani seguenti.

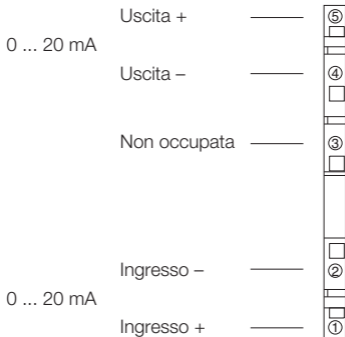
3.1 Montaggio su guide di norma TS 35



3.2 Montaggio della piastra terminale e dei collegamenti trasversali



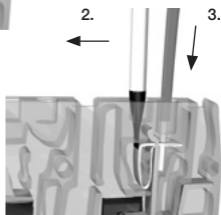
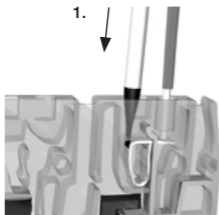
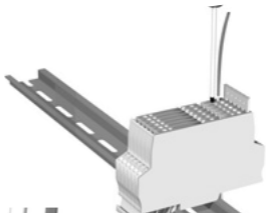
4. Collegamento elettrico



4.1 Aiuti

Per il collegamento dei cavi con i morsetti di molle di trazione si necessita per esempio un cacciavite da larghezza fino a 3 mm.

4.2 Collegamento dei cavi



4.3 Dati di collegamento

Lunghezza di spellaggio 8 mm \pm 0,5

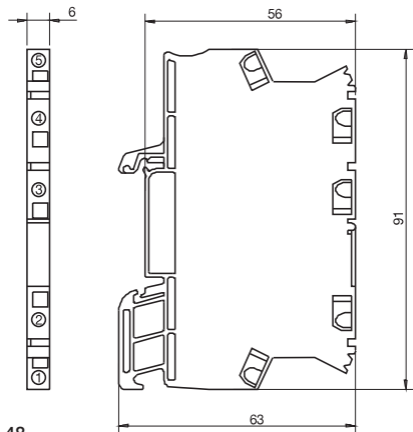
Diametri di conduttore

da un filo 0,5 ... 2,5 mm²

da filo fine 0,5 ... 2,5 mm²

con terminale 0,5 ... 1,5 mm²

5. Dimensioni



6. Dati tecnici

Ingresso

Ingresso in tensione	0 ... 20 mA
Corrente di reazione	mass. 15 V
Calo di tensione	< 100 μ A
Sovraccaricabilità all'ingresso	2,5 ... 3 V (con 20 mA)
	mass. 50 mA, 15 V

Uscita

Carico	0 ... 20 mA, mass. 10 V
Tempo di risposta (per raggiungere il 99% del valore programmato)	500 Ω
Ondulazione residuale	circa 5 ms con carico di 500 Ω
	< 10 mV _{eff}

Dati generali

Frequenza di chopper	ca. 200 kHz
Errore di trasmissione	< 0,1 % del valore finale + 0,05 % del valore di misurazione / carico 100 Ω
Influenza dalla temperatura ¹⁾	50 ppm/K del valore di misurazione con carico di 0 Ω

Tensione di prova

Ingresso / uscita	510 V AC, 50 Hz
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CEM²⁾

Legge CEM

EN 61 326
EN 61 326/A1

Temperatura ambientale

Temperatura di esercizio	-25 °C ... +60 °C
Magazzinaggio	-40 °C ... +85 °C

- 1) coefficiente di temperatura mediano nella gamma della temperatura di esercizio specificata -25 °C ... +60 °C
- 2) valido per 4 ... 20 mA; durante il disturbo sono possibili divergenze minori.

7. Dati per l'ordinazione

Accessori

Piastra terminale	931H-EB1
Collegamento trasversale	
Plug-In Jumper, bipolare, giallo	1492-CJLJ6-2
Plug-In Jumper, tripolare, giallo	1492-CJLJ6-3
Plug-In Jumper, 4-polare, giallo	1492-CJLJ6-4
Plug-In Jumper, 5-polare, giallo	1492-CJLJ6-5
Plug-In Jumper, 6-polare, giallo	1492-CJLJ6-6
Plug-In Jumper, 7-polare, giallo	1492-CJLJ6-7
Plug-In Jumper, 8-polare, giallo	1492-CJLJ6-8
Plug-In Jumper, 9-polare, giallo	1492-CJLJ6-9
Plug-In Jumper, 10-polare, giallo	1492-CJLJ6-10

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(Version 00)

