

DE Kurzbetriebsanleitung

Anschließen

- ▶ Bei Verdrahtung mit Litzendrähten: Drahtenden mit Ader-Endhülsen versehen.
- ▶ Geräte mit Schraubklemmen gemäß Abb. 5 anschließen.
- ▶ Geräte mit Federzugklemmen gemäß Abb. 6 anschließen.
- ▶ Zwischen den Anschlusskreisen eigensicherer und nicht eigensicherer Stromkreise einen Abstand von 50 mm (Fadenmaß) gemäß Abb. 7 einhalten.

In Betrieb nehmen

Nach Anschluss der Leitungen und Aufschalten der Versorgungsspannung geht das Gerät automatisch in Betrieb.

Betreiben

LED-Anzeigen

LED	Farbe	Bedeutung
Pwr	grün	Gerät ist betriebsbereit

Einstellen und Parametrieren

Einstellen über DIP-Schalter

DIP-Schalter	Bedeutung
1LZ/1:1	1LZ: Eingangssignale mit 0...20 mA bzw. 0...10 V werden in 4...20 mA bzw. 2...10 V gewandelt 1:1: Signale werden ohne Beeinflussung übertragen
2LZ/1:1	2LZ: Eingangssignale mit 0...20 mA bzw. 0...10 V werden in 4...20 mA bzw. 2...10 V gewandelt 1:1: Signale werden ohne Beeinflussung übertragen

Reparieren

Sollte das Gerät defekt sein, nehmen Sie es außer Betrieb. Das Gerät darf nur durch Turck repariert werden. Bei Rücksendung an Turck beachten Sie bitte unsere Rücknahmebedingungen.

Entsorgen

Die Geräte müssen fachgerecht entsorgt werden und gehören nicht in den normalen Hausmüll.

FR Guide d'utilisation rapide

Raccordement

- ▶ Pour le câblage avec fils toronnés : fixez les extrémités des fils à l'aide de cosses.
- ▶ Raccordez les appareils avec les bornes à vis tel qu'indiqué sur la fig. 5.
- ▶ Raccordez les appareils avec les bornes à ressort tel qu'indiqué sur la fig. 6.
- ▶ Maintenez un écart de 50 mm (mesure de fil) entre les circuits de raccordement des circuits à sécurité intrinsèque et des circuits à sécurité non intrinsèque, comme indiqué sur la fig. 7.

Mise en service

L'appareil est automatiquement opérationnel après raccordement des câbles et activation de la tension d'alimentation.

Fonctionnement

LED

LED	Couleur	Signification
Pwr	Vert	L'appareil est opérationnel

Réglages et paramétrages

Réglage par commutateurs DIP

Commutateur DIP	Signification
1LZ/1:1	1LZ : les signaux d'entrée avec 0...20 mA ou 0...10 V sont convertis en 4...20 mA ou 2...10 V 1:1 : les signaux sont transmis sans impact
2LZ/1:1	2LZ : les signaux d'entrée avec 0...20 mA ou 0...10 V sont convertis en 4...20 mA ou 2...10 V 1:1 : les signaux sont transmis sans impact

Réparation

En cas de dysfonctionnement, mettez l'appareil hors service. L'appareil ne doit être réparé que par Turck. En cas de retour à Turck, veuillez respecter les conditions de retour.

Mise au rebut

Les appareils doivent être mis au rebut de manière appropriée et ne doivent pas être placés dans les ordures ménagères.

EN Quick Start Guide

Connection

- ▶ When wiring with stranded wires: Secure the ends of the wires with ferrules.
- ▶ Connect devices with screw terminals as shown in fig. 5.
- ▶ Connect devices with spring-type terminals as shown in fig. 6.
- ▶ Maintain a distance of 50 mm (clearance) between the connection circuits of intrinsically safe and non-intrinsically safe circuits as shown in fig. 7.

Commissioning

The device is operational automatically once the cables are connected and the power supply is switched on.

Operation

LEDs

LED	Color	Meaning
Pwr	Green	Device is operational

Setting and parameterization

Setting via DIP switches

DIP switch	Meaning
1LZ/1:1	1LZ: Input signals with 0...20 mA or 0...10 V are converted to 4...20 mA or 2...10 V 1:1: Signals are transmitted without impairment
2LZ/1:1	2LZ: Input signals with 0...20 mA or 0...10 V are converted to 4...20 mA or 2...10 V 1:1: Signals are transmitted without impairment

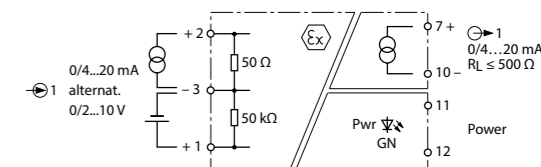
Repair

The device must be decommissioned if it is faulty. The device may only be repaired by Turck. Observe our return acceptance conditions when returning the device to Turck.

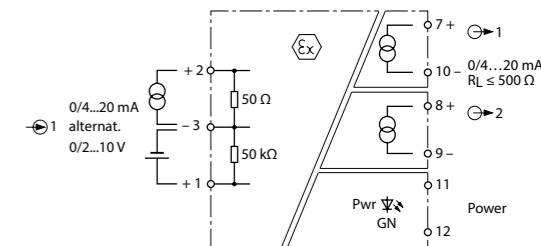
Disposal

The devices must be disposed of properly and do not belong in the domestic waste.

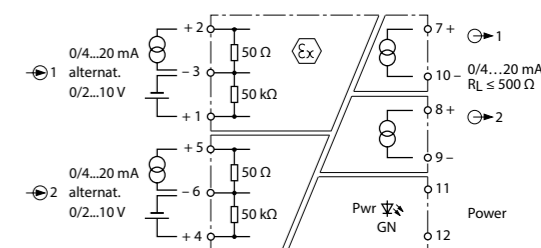
Wiring diagrams



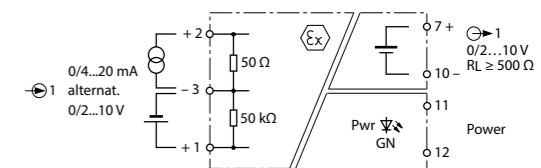
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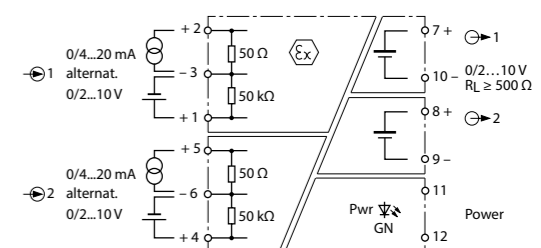
IM31-12EX-I



IM31-22EX-I



IM31-11EX-U



IM31-22EX-U

Certification data

Approvals and markings

Approvals	Markings
TÜV 06 ATEX 553387 X TÜV 04 ATEX 2679	Ⓜ II 3 G Ex nA [ic Gc] IIC/IIB T4 Gc Ⓜ II (1) G [Ex ia Ga] IIC/IIB Ⓜ II (1) D [Ex ia Da] IIIC
IECEX TUN 06.0011X	Ex ia Ga] IIC/IIB [Ex ia Da] IIIC Ex nA [ic Gc] IIC/IIB T4 Gc
模拟量输入信号隔离器	Ex ia Ga] IIC/IIB [Ex ia Da] IIIC Ex ec [ic Gc] IIC/IIB T4 Gc
인증서발급기관명: 한국산업안전보건공단 안전인증번호: 14-AV4BO-0477X 안전한 사용을 위한 조건: 발급된 인증서 참조	

Permissible ambient temperature range T_{amb}: -25...+70 °C

Electrical data

Supply circuits	Terminals	Electrical data
non intrinsically safe	Terminals 11 and 12	U _n = 20...250 VAC resp. 20...125 VDC, P ≤ 2.2 W U _m = 250 VAC resp. 125 VDC
Supply circuits	Terminals 11 and 12	U _n = 20...250 VAC resp. 20...125 VDC, P ≤ 2.2 W
non intrinsically safe	Terminals 8, 9 and 7, 10	Electrical data per circuit: U ≤ 10 V, I ≤ 20 mA U _m = 253 V
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: U ≤ 10 V, I ≤ 20 mA
non intrinsically safe	Terminals 1, 2, 3 and 4, 5, 6	Maximum values per channel: U ₀ = 7.2 V I ₀ = 1 mA P ₀ = 2 mW L ₁ 495 µH C ₁ = 52 nF
Input circuits		IM31-22EX-I, IM31-22EX-U (with 2 channels): U _i = 20 V P _i = 650 mW
intrinsically safe		IM31-1...EX-I, IM31-22EX-I (with 1 channels): U _i = 40 V P _i = 650 mW
Ex ia IIC/IIB resp. Ex ia IIIC resp. Ex ic IIC		

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ia	IIC	IIB
L ₀ [mH] max.	0.5	4.5
C ₀ [µF] max.	2	1.5

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ic	IIC	IIB
L ₀ [mH] max.	0.5	4.5
C ₀ [µF] max.	3.9	2.5

The intrinsically safe input circuits are safely separated from the non intrinsically safe circuits up to peak crest value of the voltage of 375 V. The intrinsically safe input circuits are safely galvanic separated up to sum of the voltage of the intrinsically safe circuits of 60 V.

PT Guia de Início Rápido

Conexão

- ▶ Ao fazer a fiação com fios trançados: Prensas as extremidades dos fios com ponteiros.
- ▶ Conecte o dispositivo com terminais de parafuso conforme a fig. 5.
- ▶ Conecte o dispositivo com terminais de mola conforme a fig. 6.
- ▶ Mantenha uma distância de 50 mm (espaçamento) entre os circuitos de conexão de circuitos intrinsecamente seguros e não intrinsecamente seguros conforme a fig. 7.

Comissionamento

O dispositivo fica automaticamente operacional assim que os cabos são conectados e a fonte de alimentação é ligada.

Operação

Visor LED

LED	Cor	Significado
Pwr	Verde	O dispositivo está em funcionamento

Configuração e definição de parâmetros

Configuração via interruptores DIP

Interruptor DIP	Significado
1LZ/1:1	1LZ: Sinais de entrada com 0...20 mA ou 0...10 V são convertidos em 4...20 mA ou 2...10 V 1:1: Os sinais são transmitidos sem impedimento
2LZ/1:1	2LZ: Sinais de entrada com 0...20 mA ou 0...10 V são convertidos em 4...20 mA ou 2...10 V 1:1: Os sinais são transmitidos sem impedimento

Reparo

Retire o dispositivo de operação em caso de defeito. O dispositivo pode ser consertado somente pela Turck. Observe nossas condições para aceitação de envio ao enviar o dispositivo à Turck.

Descarte

Os dispositivos devem ser descartados corretamente e não em lixo doméstico.

ES Manual rápido de funcionamiento

Conexión

- ▶ Cuando realice un cableado con cables trenzados: Fije los extremos de los cables con casquillos.
- ▶ Conecte los dispositivos con terminales de tornillo, según se muestra en la fig. 5.
- ▶ Conecte los dispositivos con terminales de tipo resorte, según se muestra en la fig. 6.
- ▶ Mantenga una distancia de 50 mm (holgura) entre los circuitos intrínsecamente seguros y los circuitos sin seguridad intrínseca, conforme a la fig. 7.

Puesta en marcha

El dispositivo se pondrá automáticamente en funcionamiento una vez que se conecten los cables y se encienda la fuente de alimentación.

Funcionamiento

LED	Color	Significado
Pwr	Verde	El dispositivo está listo para utilizarlo

Configuración y parametrización

Ajuste a través de los interruptores DIP

Interruptor DIP	Significado
1LZ/1:1	1LZ: Las señales de entrada con 0...20 mA o 0...10 V se convierten en 4...20 mA o 2...10 V 1:1: Las señales se transmiten sin pérdida
2LZ/1:1	2LZ: Las señales de entrada con 0...20 mA o 0...10 V se convierten en 4...20 mA o 2...10 V 1:1: Las señales se transmiten sin pérdida

Reparación

El dispositivo se debe desinstalar si presenta fallas. El dispositivo solo puede ser reparado por Turck. Siga nuestras políticas de devolución cuando devuelva el dispositivo a Turck.

Eliminación

Los dispositivos se deben desechar correctamente y no se deben mezclar con residuos domésticos normales.

ZH 快速入门指南

连接

- ▶ 使用绞线布线时：用线箱固定电线末端。
- ▶ 如图5所示，使用螺钉式端子连接本装置。
- ▶ 如图6所示，使用弹簧式端子连接本装置。
- ▶ 如图7所示使本安型与非本安型电路的连接电路之间保持50 mm的距离（间隙）。

调试

一旦连接线缆并接通电源，该装置便会自动运行。

运行

LED指示

LED	颜色	含义
Pwr	绿灯	装置正常运行

产品设置和参数设定

通过DIP开关进行设置

DIP开关	含义
1LZ/1:1	1LZ: 0...20 mA或0...10 V的输入信号转换为4...20 mA或2...10 V 1:1: 信号无损传输
2LZ/1:1	2LZ: 0...20 mA或0...10 V的输入信号转换为4...20 mA或2...10 V 1:1: 信号无损传输

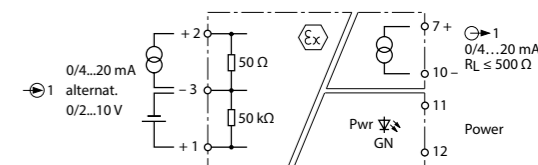
维修

如果该装置出现故障，必须将其停用。本装置只能由图尔克公司进行维修。如果要将该装置退回给图尔克公司进行维修，请遵守我们的返修验收条件。

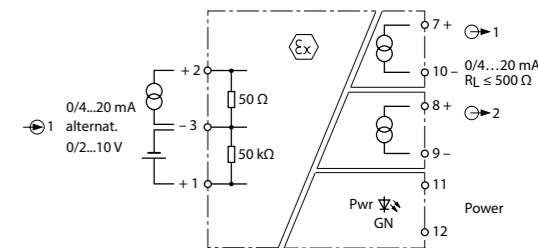
废弃处理

必须正确地弃置该装置，不得当作生活垃圾处理。

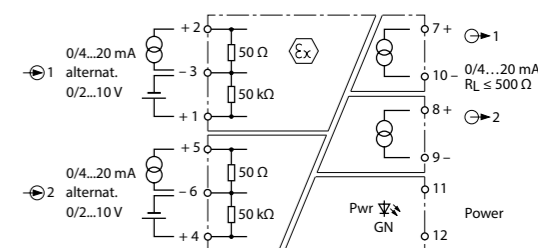
Wiring diagrams



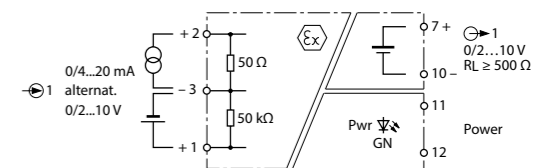
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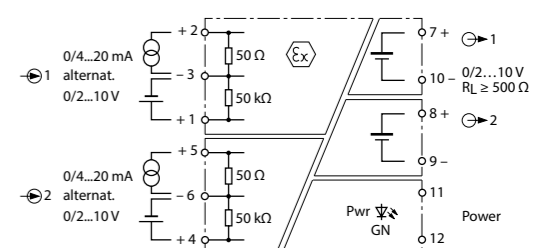
IM31-12EX-I



IM31-22EX-I



IM31-11EX-U



IM31-22EX-U

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КС	인증서발급기관명: 한국산업안전보건공단 안전인증번호: 14-AV4BO-0477X 안전한 사용을 위한 조건: 발급된 인증서 참조

Permissible ambient temperature range T_{amb} : -25...+70 °C

Electrical data

Supply circuits	Terminals	Electrical data
non intrinsically safe	Terminals 11 and 12	$U_n = 20...250$ VAC resp. $20...125$ VDC, $P \leq 2.2$ W $U_m = 250$ VAC resp. 125 VDC
Supply circuits	Terminals 11 and 12	$U_n = 20...250$ VAC resp. $20...125$ VDC, $P \leq 2.2$ W
non intrinsically safe	Terminals 11 and 12	
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: $U \leq 10$ V, $I \leq 20$ mA $U_m = 253$ V
non intrinsically safe	Terminals 8, 9 and 7, 10	
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: $U \leq 10$ V, $I \leq 20$ mA
non intrinsically safe	Terminals 8, 9 and 7, 10	
Input circuits	Terminals 1, 2, 3 and 4, 5, 6	Maximum values per channel: $U_0 = 7.2$ V $I_0 = 1$ mA $P_0 = 2$ mW $L_1 = 495$ μ H $C_1 = 52$ nF
intrinsically safe	Terminals 1, 2, 3 and 4, 5, 6	
Ex ia IIC/IIB	Terminals 1, 2, 3 and 4, 5, 6	
resp. Ex ia IIIC resp. Ex ic IIC	Terminals 1, 2, 3 and 4, 5, 6	

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ia	IIC	IIB	
L_0 [mH] max.	0.5	4.5	9.5
C_0 [μ F] max.	2	1.5	1.3

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ic	IIC	IIB	
L_0 [mH] max.	0.5	4.5	9.5
C_0 [μ F] max.	3.9	2.5	2.2

The intrinsically safe input circuits are safely separated from the non intrinsically safe circuits up to peak crest value of the voltage of 375 V.

The intrinsically safe input circuits are safely galvanic separated up to sum of the voltage of the intrinsically safe circuits of 60 V.

IT Brevi istruzioni per l'uso

Collegamento

- ▶ Durante il cablaggio con cavi a treffoli: Fissare le estremità dei cavi con le boccole.
- ▶ Collegare i dispositivi con morsetti a vite come da fig. 5.
- ▶ Collegare i dispositivi con morsetti a molla come da fig. 6.
- ▶ Mantenere una distanza di 50 mm (margini) tra i circuiti di sicurezza intrinseca e i circuiti non a sicurezza intrinseca come da fig. 7.

Messa in funzione

Una volta connessi i cavi e attivata l'alimentazione, il dispositivo entra automaticamente in funzione.

Funzionamento

LED	Colore	Significato
Pwr	Verde	Il dispositivo è operativo

Impostazione e parametrizzazione

Impostazione tramite interruttori DIP

Interruttore DIP	Significato
1LZ/1:1	1LZ: I segnali di ingresso con 0...20 mA o 0...10 V vengono convertiti in 4...20 mA o 2...10 V 1:1: I segnali vengono trasmessi senza impedimenti
2LZ/1:1	2LZ: I segnali di ingresso con 0...20 mA o 0...10 V vengono convertiti in 4...20 mA o 2...10 V 1:1: I segnali vengono trasmessi senza impedimenti

Riparazione

Se il dispositivo è difettoso, disattivarlo. Il dispositivo può essere riparato solo da Turck. In caso di restituzione a Turck osservare le condizioni per la restituzione.

Smaltimento

I dispositivi devono essere smaltiti in modo specifico e non con i comuni rifiuti domestici.

PL Skrócona instrukcja obsługi

Połączenie

- ▶ W przypadku okablowania za pomocą przewodów typu linka: zabezpieczyć końce przewodów za pomocą tulejek.
- ▶ Podłączyć urządzenia za pomocą zacisków śrubowych, jak pokazano na rys. 5.
- ▶ Podłączyć urządzenia za pomocą zacisków sprężynowych, jak pokazano na rys. 6.
- ▶ Zachować odległość (odstęp) 50 mm pomiędzy obwodami iskrobezpiecznymi i nieiskrobezpiecznymi, jak pokazano na rys. 7.

Uruchomienie

Po podłączeniu przewodów i zasilania urządzenie automatycznie przechodzi w tryb pracy.

Obsługa

LED	Kolor	Opis
Pwr	Zielony	Urządzenie działa

Konfiguracja i parametryzacja

Konfiguracja za pomocą przełączników DIP

Przełącznik DIP	Opis
1LZ/1:1	1LZ: Sygnały wejściowe 0...20 mA lub 0...10 V są konwertowane na sygnały 4...20 mA lub 2...10 V 1:1: Sygnały są przesyłane bez zakłóceń
2LZ/1:1	2LZ: Sygnały wejściowe 0...20 mA lub 0...10 V są konwertowane na sygnały 4...20 mA lub 2...10 V 1:1: Sygnały są przesyłane bez zakłóceń

Naprawa

Jeśli urządzenie jest wadliwe, należy je wycofać z eksploatacji. Urządzenie może być naprawiane wyłącznie przez firmę Turck. W przypadku odsyłania produktu do firmy Turck należy postępować zgodnie z naszymi zasadami dokonywania zwrotów.

Usuwanie

Urządzenia muszą być usuwane w odpowiedni sposób i nie mogą być wyrzucane razem z odpadami gospodarstw domowych.

CS Zkrácený návod

Zapojení

- ▶ Při zapojování pomocí lankových vodičů: Konce vodičů zajistěte koncovkami.
- ▶ Připojení přístroje se šroubovými svorkami je uvedeno na obr. 5..
- ▶ Připojení přístroje s pružinovými svorkami je uvedeno na obr. 6.
- ▶ Mezi jiskrově bezpečnými a ostatními obvody udržte vzdálenost 50 mm, jak je znázorněno na obr. 7.

Uvádění do provozu

Přístroj je provozuschopný okamžitě po připojení kabelů a zapnutí napájení.

Provoz

LED	Barva	Význam
Pwr	zelená	Přístroj pracuje

Nastavení a parametrizace

Nastavení pomocí DIP přepínačů

DIP přepínač	Význam
1LZ/1:1	1LZ: Vstupní signály 0...20 mA nebo 0...10 V jsou převáděny na 4...20 mA nebo 2...10 V 1:1: Signály jsou převáděny bez ovlivnění
2LZ/1:1	2LZ: Vstupní signály 0...20 mA nebo 0...10 V jsou převáděny na 4...20 mA nebo 2...10 V 1:1: Signály jsou převáděny bez ovlivnění

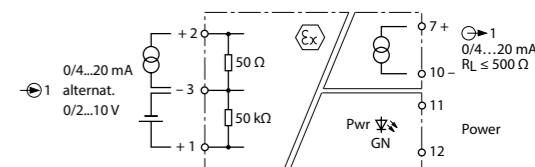
Opravy

Pokud je zařízení vadné, musí být vyřazeno z provozu. Přístroj smí být opravován pouze společností Turck. Před zasláním přístroje výrobcí si zkontrolujte podmínky vrácení.

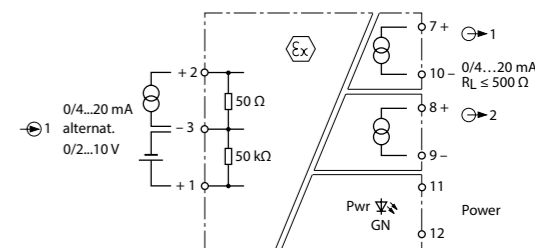
Likvidace

Zařízení musí být řádně zlikvidováno a nepatří do domovního odpadu.

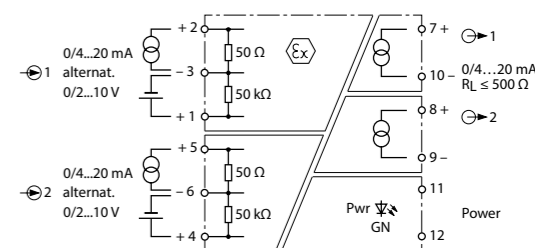
Wiring diagrams



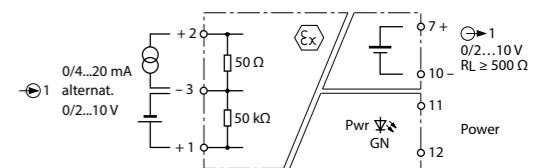
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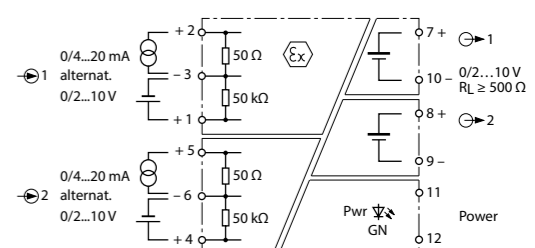
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IM31-11EX-U



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Approvals and markings

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Ⓜ	인증서발급기관명: 한국산업안전보건공단 안전인증번호: 14-AV4BO-0477X 안전한 사용을 위한 조건: 발급된 인증서 참조

Permissible ambient temperature range T_{amb} : -25...+70 °C

Electrical data

Supply circuits	Terminals	Electrical data
non intrinsically safe	Terminals 11 and 12	$U_n = 20...250$ VAC resp. $20...125$ VDC, $P \leq 2.2$ W $U_m = 250$ VAC resp. 125 VDC
Supply circuits	Terminals 11 and 12	$U_n = 20...250$ VAC resp. $20...125$ VDC, $P \leq 2.2$ W
non intrinsically safe		
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: $U \leq 10$ V, $I \leq 20$ mA $U_m = 253$ V
non intrinsically safe		
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: $U \leq 10$ V, $I \leq 20$ mA
non intrinsically safe		
Input circuits	Terminals 1, 2, 3 and 4, 5, 6	Maximum values per channel: $U_0 = 7.2$ V $I_0 = 1$ mA $P_0 = 2$ mW $L_1 = 495$ μ H $C_1 = 52$ nF
intrinsically safe		
Ex ia IIC/IIB		
resp. Ex ia IIIC resp. Ex ic IIC		

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ia	IIC	IIB	
L_0 [mH] max.	0.5	4.5	9.5
C_0 [μ F] max.	2	1.5	1.3

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ic	IIC	IIB	
L_0 [mH] max.	0.5	4.5	9.5
C_0 [μ F] max.	3.9	2.5	2.2

The intrinsically safe input circuits are safely separated from the non intrinsically safe circuits up to peak crest value of the voltage of 375 V.
The intrinsically safe input circuits are safely galvanic separated up to sum of the voltage of the intrinsically safe circuits of 60 V.

RU Руководство по быстрому запуску

Подключение

- ▶ При использовании многожильных проводов: Закрепите концы проводов с помощью обжимных наконечников.
- ▶ Подключите устройства с винтовыми клеммами, как показано на рис. 5.
- ▶ Подключите устройства с пружинными клеммами, как показано на рис. 6.
- ▶ Обеспечьте расстояние (зазор) 50 мм между соединениями искробезопасных и незащищенных цепей, как показано на рис. 7.

Ввод в эксплуатацию

После подключения кабелей и включения источника питания устройство начинает работать автоматически.

Работа

Светодиод	Цвет	Значение
Pwr	Зеленый	Устройство готово к работе

Настройка и параметризация

Настройка при помощи DIP-переключателей

DIP-переключатель	Значение
1LZ/1:1	1LZ: Входные сигналы 0...20 mA или 0...10 V преобразуются в 4...20 mA или 2...10 B 1:1: Сигналы передаются без искажения
2LZ/1:1	2LZ: Входные сигналы 0...20 mA или 0...10 V преобразуются в 4...20 mA или 2...10 B 1:1: Сигналы передаются без искажения

Ремонт

В случае неисправности устройство следует вывести из эксплуатации. Ремонт устройства может выполняться только компанией Turck. В случае возврата устройства в компанию Turck изучите наши условия возврата.

Утилизация

Устройства следует утилизировать в соответствии с нормативными документами отдельно от бытовых отходов.

JP クイックスタートガイド

接続

- ▶ 撚り線で配線する場合:線の端をフェールルで固定します。
- ▶ 図5に示すように、ネジ端子を使用してデバイスを接続します。
- ▶ 図6に示すように、ケージクランプ端子を使用してデバイスを接続します。
- ▶ 図7に示すように、本質安全回路と非本質安全回路の接続回路間の距離(隙間)を50 mm 確保します。

試運転

ケーブルを接続して、電源をオンにすると、デバイスが自動的に作動します。

操作

LED	色	意味
Pwr	緑	デバイスが作動中

設定とパラメータ設定

DIPスイッチによる設定

DIPスイッチ	意味
1LZ/1:1	1LZ:0~20 mAまたは0~10 Vの入力信号は、4~20 mAまたは2~10 Vに変換されます 1:1:信号は損失なく送信されます
2LZ/1:1	2LZ:0~20 mAまたは0~10 Vの入力信号は、4~20 mAまたは2~10 Vに変換されます 1:1:信号は損失なく送信されます

修理

デバイスに不具合がある場合は使用を中止してください。デバイスはTurckでのみ修理できます。デバイスをTurckに返品する際は、当社の返品受付条件に従ってください。

廃棄

これらのデバイスは正しく廃棄する必要があり、一般家庭ごみと一緒にしないでください。

KO 빠른 설치 가이드

연결

- ▶ 연선 와이어로 배선할 경우: 와이어 끝은 페룰을 사용해 고정하십시오.
- ▶ 그림 5에 표시된 것처럼, 나사 터미널을 사용하여 장치를 연결하십시오.
- ▶ 그림 6에 표시된 것처럼, 스프링 터미널을 사용하여 장치를 연결하십시오.
- ▶ 그림 7에 표시된 것처럼, 본질 안전 회로와 비본질 안전 회로의 연결 회로 사이에 50 mm의 거리(간격)를 유지하십시오.

시운전

케이블이 연결되고 파워 서플라이가 켜지면 장치가 자동으로 작동 가능해집니다.

작동

LED	색상	의미
Pwr	녹색	장치 작동 가능

설정 및 매개 변수화

DIP 스위치를 사용한 설정

DIP 스위치	의미
1LZ/1:1	1LZ: 0...20 mA 또는 0...10 V의 입력 신호는 4...20 mA 또는 2...10 V로 변환됩니다. 1:1: 신호가 손상 없이 전송됩니다.
2LZ/1:1	2LZ: 0...20 mA 또는 0...10 V의 입력 신호는 4...20 mA 또는 2...10 V로 변환됩니다. 1:1: 신호가 손상 없이 전송됩니다.

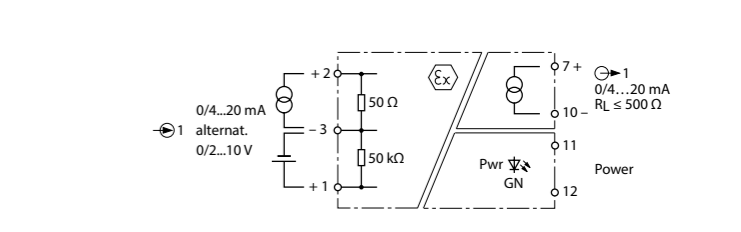
수리

이 장치에 고장이 발생한 경우 설치 해제해야 합니다. 이 장치는 터크에서만 수리할 수 있습니다. 장치를 터크에 반품할 경우, 반품 승인 조건을 준수하십시오.

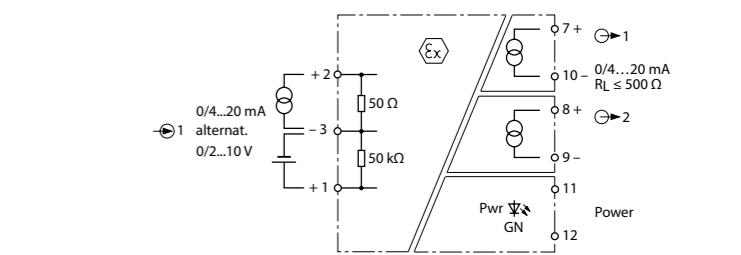
폐기

장치는 적절하게 폐기해야 하며 가정용 폐기물에 해당하지 않습니다.

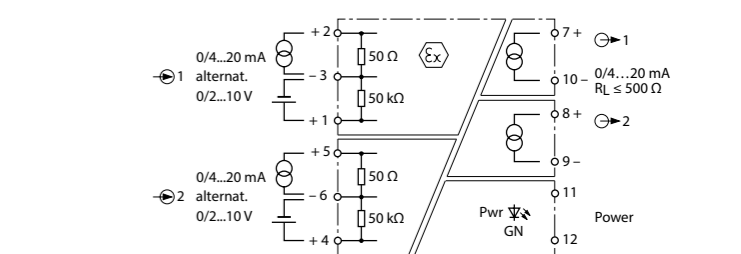
Wiring diagrams



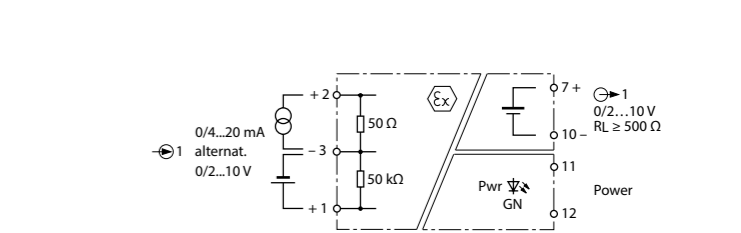
IM31-11EX-I



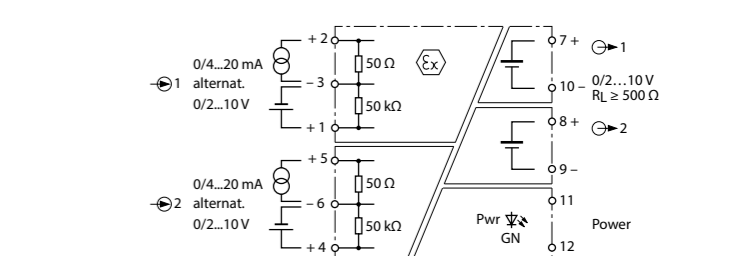
IM31-12EX-I



IM31-22EX-I



IM31-11EX-U



IM31-22EX-U

Certification data

Approvals and markings

Approvals	
TÜV 06 ATEX 553387 X	Ⓜ II 3 G Ex nA [ic Gc] IIC/IIB T4 Gc
TÜV 04 ATEX 2679	Ⓜ II (1) G [Ex ia Ga] IIC/IIB Ⓜ II (1) D [Ex ia Da] IIIC
IECEX TUN 06.0011X	Ex ia Ga] IIC/IIB [Ex ia Da] IIIC Ex nA [ic Gc] IIC/IIB T4 Gc
模拟量输入信号隔离器	Ex ia Ga] IIC/IIB [Ex ia Da] IIIC Ex ec [ic Gc] IIC/IIB T4 Gc
	인증서발급기관명: 한국산업안전보건공단 안전인증번호: 14-AV4BO-0477X 안전한 사용을 위한 조건: 발급된 인증서 참조

Permissible ambient temperature range T_{amb}: -25...+70 °C

Electrical data

Supply circuits	Terminals	Electrical data
non intrinsically safe	Terminals 11 and 12	U _n = 20...250 VAC resp. 20...125 VDC, P ≤ 2.2 W U _m = 250 VAC resp. 125 VDC
Supply circuits	Terminals 11 and 12	U _n = 20...250 VAC resp. 20...125 VDC, P ≤ 2.2 W
non intrinsically safe		
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: U ≤ 10 V, I ≤ 20 mA U _m = 253 V
non intrinsically safe		
Output circuits	Terminals 8, 9 and 7, 10	Electrical data per circuit: U ≤ 10 V, I ≤ 20 mA
non intrinsically safe		
Input circuits	Terminals 1, 2, 3 and 4, 5, 6	Maximum values per channel: U ₀ = 7.2 V I ₀ = 1 mA P ₀ = 2 mW L ₁ 495 µH C ₁ = 52 nF
intrinsically safe		
Ex ia IIC/IIB		
resp. Ex ia IIIC resp. Ex ic IIIC		
		IM31-22EX-I, IM31-22EX-U (with 2 channels): U _i = 20 V P _i = 650 mW IM31-1...EX-I, IM31-22EX-I (with 1 channels): U _i = 40 V P _i = 650 mW

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ia	IIC	IIB	
L ₀ [mH] max.	0.5	4.5	9.5
C ₀ [µF] max.	2	1.5	1.3
		9	6.7
		6.7	6.1

The maximum values of the tables are also allowed to be used up to the permissible limits as concentrated capacitances and as concentrated inductances:

Ex ic	IIC	IIB	
L ₀ [mH] max.	0.5	4.5	9.5
C ₀ [µF] max.	3.9	2.5	2.2
		17	12
		12	10

The intrinsically safe input circuits are safely separated from the non intrinsically safe circuits up to peak crest value of the voltage of 375 V.

The intrinsically safe input circuits are safely galvanic separated up to sum of the voltage of the intrinsically safe circuits of 60 V.