Your Global Automation Partner

TURCK

Product Selection Guide
IMX12 Interface Series

IMX12-DI

IMX12 Interface Series

Interface devices are the true all-rounders in the control cabinet. They combine protecting, isolating, converting and supply tasks in the smallest space. A further major challenge are the requirements in standards. In this environment, the users expect reliability, precision and safety.

Turck sets a new standard in the field of Ex-safety-barriers and Ex-analog-signal iso-

lators with the new IMX12 interface device series. Fast and precise signal processing in the smallest space, reliable supply of the connected instrumentation and long maintenance-free operation are the most important criteria in the selection.

The IMX12 series sets standards in many respects. The devices were developed according to the current norms and stan-
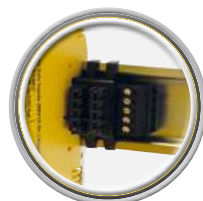
dards, and are the latest interface platform on the market. You therefore benefit from investment security and availability for a long period of time. The devices of the IMX12 series are designed for processing of switching, NAMUR, frequency, current, voltage and resistance signals.
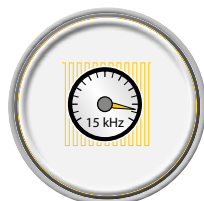
Clear signaling acc. to NE44

Use in zone 2 or Class 1 Division 2

Width 12.5 mm
4 terminal strips
Up to 66 % space gain

Simple operation
DIP switch
Parameterizable via FDT/DTM

Power rail + Collective fault signal optional

Fastest isolating switching amplifier up to 15 kHz

Wide power supply range
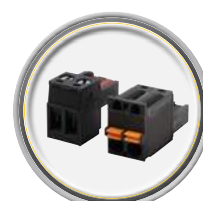
Screw or cage clamp terminals

Safe
Safety first – is a maxim at Turck. With the IMX12 series, we want to contribute to your system security. All devices have been developed and manufactured in accordance with the requirements of the IEC61508 and can be used in safety circuits up to SIL2.

Global
Turck is a globally operating company, thus fulfilling requirements of international markets. We offer worldwide approvals, and thus ensure the applicability of devices in different systems.

IMX12 Interface - Part Number Key

IMX12	-	DI03	-	1S	-	2R	-	SPR	/	24VDC	/	CC

Housing

IMX12 = ex 12.5 mm wide

Device Type & Device Function

DI = Digital Input
    1 = line fault monitoring
    2 = no line fault monitoring
    3 = line fault monitoring with selectable alarm output
FI = Frequency Input
    1 = Namur/dry contact, or pulse
    2 = Namur/dry contact, or pulse, or 3-wire
AI = Analog Input
    1 = 4...20mA active/passive line fault monitoring
    2 = 4...20mA active/passive no line fault monitoring
    3 = 0/4...20mA active/passive
    4 = 4...20mA passive
    5 = 0/4...20mA passive
TI = Temperature Input
    1 = 2-4 wire RTD
    2 = Thermocouple, or 3-4 wire RTD, or mV
    3 = Thermocouple, or mV
AO = Analog Output
    1 = 4…20mA active with line fault monitoring
    2 = 4…20mA active no line fault monitoring
DO = Digital Output
    1 = curve 1 with line fault monitoring
    2 = curve 2 with line fault monitoring
    3 = curve 3 with line fault monitoring
    4 = curve 4 with line fault monitoring
    5 = curve 5 with line fault monitoring
CD = Coupling Device
    1 = behavior over terminal blocks
PA = Potentiometer Amplifier
    2 = 3-5 wire

Field Side

Channels	Signal Type	
1	S	= switch
2	NAM	= Namur
	F	= frequency
	I	= current
	U	= voltage
	TC	= thermocouple
	RTD	= resistor temperature detector
	POT	= potentiometer
	R	= resistor
	MTIS	= moisture temperature infrared switch

Terminal Electrical Connection

CC = cage clamps
Blank = screw clamps

Supply

24VDC = 10…30VDC
L = loop power

Special Function

H = hart
C = parametrized via PC
PR = power rail
S = alarm output
0 = none

DCS Side

Channels	Signal Type	
1	I	= current
2	U	= voltage
	T	= potential free transistor
	PNP	= positive switching transistor
	NPN	= negative switching transistor
	MT	= mosfet
	R	= relay
	RTD	= resistor temperature detector
	NAM	= Namur
	F	= frequency
	PP	= push pull (level)

Digital Input Barriers

Approvals: SIL 2, FM, UL, IECEx, ATEX,
NEPSI, KOSHA, INMETRO, TIIS, TR CU EAC

| | | Input | | | Output | | | | | Power | | Terminal | |
| | | | | Channels | Namur | Relay | Transistor | Push-Pull | Alarm | Connector | Power Rail** | Screw | Cage Clamp |
ID Number	Part Number	Channels	Line monitoring*	Namur/Dry Contact	Channels	Namur	Relay	Transistor	Push-Pull	Alarm	Connector	Power Rail**	Screw	Cage Clamp
7580000	IMX12-DI03-1S-1NAM1R-0/24VDC	1	S	•	2	•	•				•		•	
7580001	IMX12-DI03-1S-1NAM1R-PR/24VDC	1	S	•	2	•	•					•	•	
7580002	IMX12-DI03-1S-1NAM1R-0/24VDC/CC	1	S	•	2	•	•				•			•
7580003	IMX12-DI03-1S-1NAM1R-PR/24VDC/CC	1	S	•	2	•	•					•		•
7580004	IMX12-DI03-1S-1NAM1T-0/24VDC	1	S	•	2	•		•			•		•	
7580005	IMX12-DI03-1S-1NAM1T-PR/24VDC	1	S	•	2	•		•				•	•	
7580006	IMX12-DI03-1S-1NAM1T-0/24VDC/CC	1	S	•	2	•		•			•			•
7580007	IMX12-DI03-1S-1NAM1T-PR/24VDC/CC	1	S	•	2	•		•				•		•
7580008	IMX12-DI03-1S-2R-S/24VDC	1	S	•	2		•			•	•		•	
7580009	IMX12-DI03-1S-2R-SPR/24VDC	1	S	•	2		•			•		•	•	
7580010	IMX12-DI03-1S-2R-S/24VDC/CC	1	S	•	2		•			•	•			•
7580011	IMX12-DI03-1S-2R-SPR/24VDC/CC	1	S	•	2		•			•		•		•
7580012	IMX12-DI03-1S-2T-S/24VDC	1	S	•	2			•		•	•		•	
7580013	IMX12-DI03-1S-2T-SPR/24VDC	1	S	•	2			•		•		•	•	
7580014	IMX12-DI03-1S-2T-S/24VDC/CC	1	S	•	2			•		•	•			•
7580015	IMX12-DI03-1S-2T-SPR/24VDC/CC	1	F	•	2			•		•		•		•
7580016	IMX12-DI01-2S-2R-0/24VDC	2	S	•	2		•				•		•	
7580017	IMX12-DI01-2S-2R-PR/24VDC	2	S	•	2		•					•	•	
7580018	IMX12-DI01-2S-2R-0/24VDC/CC	2	S	•	2		•				•			•
7580019	IMX12-DI01-2S-2R-PR/24VDC/CC	2	S	•	2		•					•		•
7580020	IMX12-DI01-2S-2T-0/24VDC	2	S	•	2			•			•		•	
7580021	IMX12-DI01-2S-2T-PR/24VDC	2	S	•	2			•				•	•	
7580022	IMX12-DI01-2S-2T-0/24VDC/CC	2	S	•	2			•			•			•
7580023	IMX12-DI01-2S-2T-PR/24VDC/CC	2	S	•	2			•				•		•
7580024	IMX12-DI01-2S-2PP-0/24VDC	2	S	•	2				•		•		•	
7580025	IMX12-DI01-2S-2PP-PR/24VDC	2	S	•	2				•			•	•	
7580026	IMX12-DI01-2S-2PP-0/24VDC/CC	2	S	•	2				•		•			•
7580027	IMX12-DI01-2S-2PP-PR/24VDC/CC	2	S	•	2				•			•		•

* F = Fixed, S = Selectable

** The power rail is a connector based system comprised of an optional power supply module
which feeds power to all devices via a power rail connector. (See accessories on page 8)

IMX12 Interface - Types and Features

Digital Output Barriers

Approvals: SIL 2, FM, UL, IECEx, ATEX,
NEPSI, KOSHA, INMETRO, TIIS, TR CU EAC

		Input		Output		Power		Terminal	
ID Number	Part Number	Channels	Line monitoring*	Channels	10-30 VDC	Connector	Power Rail**	Screw	Cage Clamp
7580100	IMX12-DO01-1U-1U-PR/24VDC	1	F	1	•		•	•	
7580101	IMX12-DO01-1U-1U-0/24VDC	1	F	1	•	•		•	
7580102	IMX12-DO01-1U-1U-PR/24VDC/CC	1	F	1	•		•		•
7580103	IMX12-DO01-1U-1U-0/24VDC/CC	1	F	1	•	•			•
7580104	IMX12-DO01-2U-2U-PR/24VDC	2	F	2	•		•	•	
7580105	IMX12-DO01-2U-2U-0/24VDC	2	F	2	•	•		•	
7580106	IMX12-DO01-2U-2U-PR/24VDC/CC	2	F	2	•		•		•
7580107	IMX12-DO01-2U-2U-0/24VDC/CC	2	F	2	•	•			•

Digital Analog Input Barriers

Approvals: SIL 2, FM, UL, IECEx, ATEX,
NEPSI, KOSHA, INMETRO, TIIS, TR CU EAC

		Input				Output				Power		Terminal	
ID Number	Part Number	Channels	Line monitoring*	4-20 mA Source/Sink	HART	Channels	4-20 mA Source/Sink	1-5 V Source	HART	Connector	Power Rail**	Screw	Cage Clamp
7580301	IMX12-AI01-1I-2IU-H0/24VDC	1	F	•	•	2	•	•	•	•		•	
7580304	IMX12-AI01-2I-2IU-HPR/24VDC	2	F	•	•	2	•	•	•		•	•	
7580305	IMX12-AI01-2I-2IU-H0/24VDC	2	F	•	•	2	•	•	•	•		•	
7580306	IMX12-AI01-2I-2IU-HPR/24VDC/CC	2	F	•	•	2	•	•	•		•		•
7580307	IMX12-AI01-2I-2IU-H0/24VDC/CC	2	F	•	•	2	•	•	•	•			•
7580312	IMX12-AI01-1I-1IU-HPR/24VDC	1	F	•	•	1	•	•	•		•	•	
7580313	IMX12-AI01-1I-1IU-H0/24VDC	1	F	•	•	1	•	•	•	•		•	
7580314	IMX12-AI01-1I-1IU-HPR/24VDC/CC	1	F	•	•	1	•	•	•		•		•
7580315	IMX12-AI01-1I-1IU-H0/24VDC/CC	1	F	•	•	1	•	•	•	•			•

* F = Fixed, S = Selectable

** The power rail is a connector based system comprised of an optional power supply module
which feeds power to all devices via a power rail connector. (See accessories on page 8)

IMX12 Interface - Types and Features

Analog Temperature Barriers

Approvals: SIL 2, FM, UL, IECEx, ATEX, NEPSI, KOSHA, INMETRO, TIIS, TR CU EAC

Configuration: PC Port***

		Input							Output			Power		Terminal	
ID Number	Part Number	Channels	Line monitoring*	2, 3, 4-wire RTD	2, 3-wire RTD	mV	Thermocouple	Resistor	Channels	Relay	4-20 mA Active/Passive	Connector	Power Rail**	Screw	Cage Clamp
7580504	IMX12-TI02-1TCURTDR-1I1R-CPR/24VDC	1	F	•		•	•	•	2	•	•		•	•	
7580505	IMX12-TI02-1TCURTDR- 1I1R-C0/24VDC	1	F	•		•	•	•	2	•	•	•		•	
7580506	IMX12-TI02-1TCURTDR-1I1R-CPR/24VDC/CC	1	F	•		•	•	•	2	•	•		•		•
7580507	IMX12-TI02-1TCURTDR-1I1R-C0/24VDC/CC	1	F	•		•	•	•	2	•	•	•			•
7580508	IMX12-TI02-2TCURTDR-2I-CPR/24VDC	2	F		•	•	•	•	2		•		•	•	
7580509	IMX12-TI02-2TCURTDR-2I-C0/24VDC	2	F		•	•	•	•	2		•	•		•	
7580510	IMX12-TI02-2TCURTDR-2I-CPR/24VDC/CC	2	F		•	•	•	•	2		•		•		•
7580511	IMX12-TI02-2TCURTDR-2I-C0/24VDC/CC	2	F		•	•	•	•	2		•	•			•
7580512	IMX12-TI01-2RTDR-2I-CPR/24VDC	2	F	•				•	2		•		•	•	
7580513	IMX12-TI01-2RTDR-2I-C0/24VDC	2	F	•				•	2		•	•		•	
7580514	IMX12-TI01-2RTDR-2I-CPR/24VDC/CC	2	F	•				•	2		•		•		•
7580515	IMX12-TI01-2RTDR-2I-C0/24VDC/CC	2	F	•				•	2		•	•			•

Frequency Barriers

Approvals: SIL 2, FM, UL, IECEx, ATEX, NEPSI, KOSHA, INMETRO, TIIS, TR CU EAC

Configuration: PC Port***

		Input			Output			Power		Terminal	
ID Number	Part Number	Channels	Line monitoring*	Namur/Dry Contact	Channels	Relay	4-20 mA Active/Passive	Connector	Power Rail**	Screw	Cage Clamp
7580204	IMX12-FI01-1SF-1I1R-CPR/24VDC	1	F	•	2	•	•		•	•	
7580205	IMX12-FI01-1SF-1I1R-C0/24VDC	1	F	•	2	•	•	•		•	
7580206	IMX12-FI01-1SF-1I1R-CPR/24VDC/CC	1	F	•	2	•	•		•		•
7580207	IMX12-FI01-1SF-1I1R-C0/24VDC/CC	1	F	•	2	•	•	•			•
7580208	IMX12-FI01-2SF-2I-CPR/24VDC	2	F	•	2		•		•	•	
7580209	IMX12-FI01-2SF-2I-C0/24VDC	2	F	•	2		•	•		•	
7580210	IMX12-FI01-2SF-2I-CPR/24VDC/CC	2	F	•	2		•		•		•
7580211	IMX12-FI01-2SF-2I-C0/24VDC/CC	2	F	•	2		•	•			•

* F = Fixed, S = Selectable

** The power rail is a connector based system comprised of an optional power supply module which feeds power to all devices via a power rail connector. (See accessories on page 8)

*** PC configuration requires M12 to serial cable and USB Master. (See accessories on page 8)

IMX12 Interface - Types and Features

Relay Coupler Barriers

Approvals: SIL 3, FM, UL, IECEx, ATEX,
NEPSI, KOSHA, INMETRO, TIIS, TR CU EAC

		Input		Output		Power	Terminal	
ID Number	Part Number	Channels	10...30VDC	Channels	Relay	Loop-powered	Screw	Cage Clamp
7580620	IMX12-CD01-2R-2U-0/L	3	•	3	•	•	•	
7580621	IMX12-CD01-2R-2U-0/L/CC	3	•	3	•	•		•

IMX12 Interface - Technical Information

Dimensions	Technical data	
	Operating voltage	10…30 VDC
	Suitable for use in safety circuits up to	SIL 2 acc. to IEC 61508
	Dimensions	12.5 x 112 x 110 mm
	Application areas	II (1) G, II (1) D
	Explosion protection type	[Ex ia Ga] IIC; [Ex ia Da] IIIC Ex nA nC [ia Ga] IIC/IIB T4 Gc
	Ambient temperature	-25…+70 °C

Availability/Reliability
- Transparent cover

High channel density
- 4 Connection possibilities on each side

Easily mounted
- Power supply via optional power rail

Accessories

ID	Part Number	Description
7580943	IMX12-CC-2X-4BU	Removable spring terminals, 2-pin, Blue (4pcs)
7580941	IMX12-SC-2X-4BU	Removable screw terminals, 2-pin, Blue (4pcs)
7580942	IMX12-CC-2X-4BK	Removable spring terminals, 2-pin, Black (4pcs)
7580940	IMX12-SC-2X-4BK	Removable screw terminals, 2-pin, Black (4pcs)
7580610	IMX12-PS02-UI-UIR-PR/24VDC	Power supply module w/removable screw terminals
7580611	IMX12-PS02-UI-UIR-PR/24VDC/CC	Power supply module w/removable spring terminals
7525110	IOL-COM/3M	M12 to serial plug device cable
6825482	USB-2-IOL-0002	USB to M12 IO-Link Master

TURCK

30 subsidiaries and over
60 representations worldwide!

Printed in USA

B4104 A 02/20

www.turck.com