

MODEL · I3D

PROCESS SIGNAL DUPLICATOR



Signal duplicator for process signal, isolated 4 ways, for DIN rail mount.

Signal duplicator and signal converter, for process signals, isolated, for industrial applications. Accepts process signals in 4/20 mA and 0/10 Vdc, provides excitation voltage if needed. Dual output with 4/20 mA signals. Isolated 4 ways between power, input signal, output 1 and output 2.

Universal power supply from 24 to 240 Vac/dc $\pm 10\%$, isolated. Easy and fast configuration through configuration codes. Plug-in screw terminal connections. Functions to generate low and high output signals, to validate remote instrumentation. 'Password' function to block access to configuration. Designed for industrial environment, for a wide range of applications, reduced cost, excellent quality and optional customization.

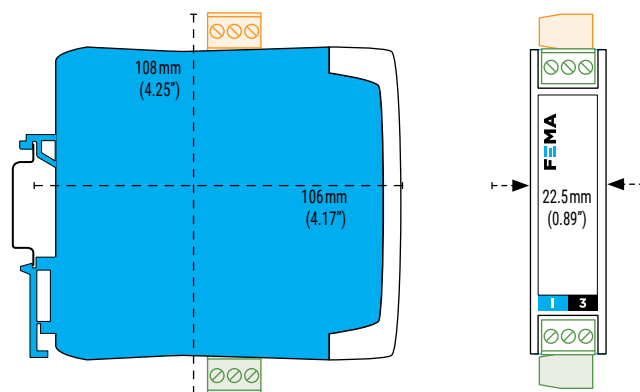
1. TECHNICAL SPECIFICATIONS

Input signal ranges	
process	4/20 mA, 0/10 Vdc (active and passive) excitation voltage +15 Vdc @25 mA
input impedance (mA)	variable impedance (voltage drop on terminals <1.2 Vdc)
input impedance (Vdc)	1 M Ω m
maximum oversignal*	25 mA, 25 Vdc
maximum oversignal is the maximum signal accepted by the instrument. Higher signal values may cause instrument damage. Lower values are non destructive but may be out of accuracy specifications	
Accuracy at 25 °C	0.5% F.S. for mA, 0.3% F.S. for Vdc
Thermal stability	<100 ppm/°C (F.S.)
Step response	<200 mSec. in 'Mode 1'
0 to 99% of signal	<550 mSec. in 'Mode 2'
Output 1 signal ranges	
active 4/20 mA signal	4/20 mA active, max. 20.5 mA, min. 3.0 mA, load <400 Ohm
passive 4/20 mA signal	4/20 mA passive, max. 30 Vdc on terminals
Output 2 signal ranges	
active 4/20 mA signal	4/20 mA active, max. 20.5 mA, min. 3.0 mA, load <400 Ohm
passive 4/20 mA signal	4/20 mA passive, max. 30 Vdc on terminals
Configuration	
keypad	2 keys
display	2 digits, 7 segments, 5 mm height, red color
Power supply	
voltage range	24 to 240 Vac/dc $\pm 10\%$, isolated
AC frequency	45 to 65 Hz
consumption	<4.0 W
power wires	1 mm ² to 2.5 mm ² (AWG17 to AWG14)
overvoltage category	2
Isolation 4 ways	
between all circuits	2300 Veff (60 seconds)
except output 1 - output 2	1500 Vdc (60 seconds)
Environmental	
IP protection	IP30
impact protection	IK06
operation	from 0 to +50 °C
storage	from -20 to +70 °C
'warm-up' time	15 minutes
humidity	0 to 95% non condensing
altitude	up to 2000 meters
Mechanical	
size	106 x 108 x 22.5 mm
mounting	standard DIN rail (35 x 7.5 mm)
connections	plug-in screw terminals (pitch 5.08 mm)
housing material	polyamide V0
weight	<150 grams
packaging	120 x 115 x 30 mm, cardboard

2. HOW TO ORDER

I3D	Process signal duplicator
I3D.1442	Process signal duplicator signal converter with custom features

3. DIMENSIONS



4. FUNCTIONS INCLUDED

Function '**Force Low**' . . . temporarily forces the signal output to the minimum of the selected range (4 mA). Tool to validate the function of the remote elements connected to the output.

Function '**Force High**' . . . temporarily forces the signal output to the maximum of the selected range (20 mA). Tool to validate the function of the remote elements connected to the output.

Function '**Password**' . . . prevents access from unauthorized operators to 'configuration mode' and 'tools' menu.

5. CONNECTIONS: INPUT & OUTPUT

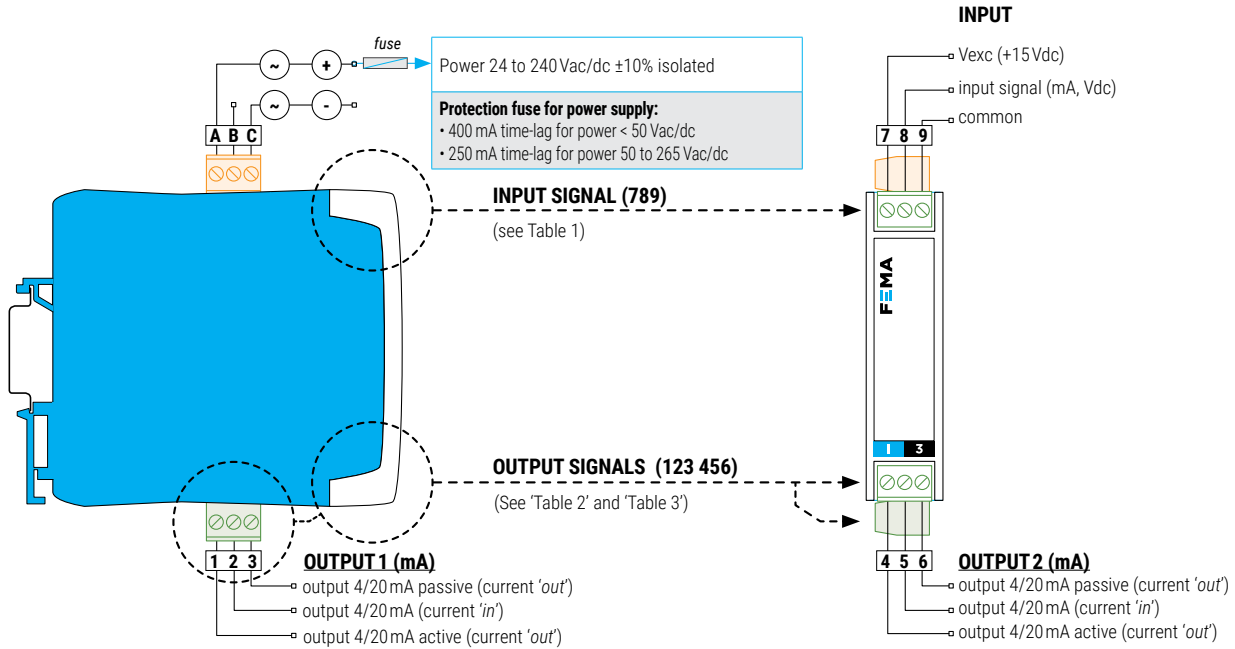


Table 1 | INPUT signal connections

Input signal	Input terminals			Connections
	7	8	9	
4/20 mA passive input	Vexc (out)	mA- (in)		
4/20 mA active input		mA- (in)	mA+ (out)	
0/10 Vdc (2 wires)		+Vdc	common	
0/10 Vdc (3 wires)	Vexc	+Vdc	common	

Table 2 | OUTPUT1 signal connections

Output signal	Output terminals			Connections
	1	2	3	
4/20 mA active output	Vexc (out)	mA- (in)		
4/20 mA passive output		mA- (in)	mA+ (out)	

Table 3 | OUTPUT2 signal connections

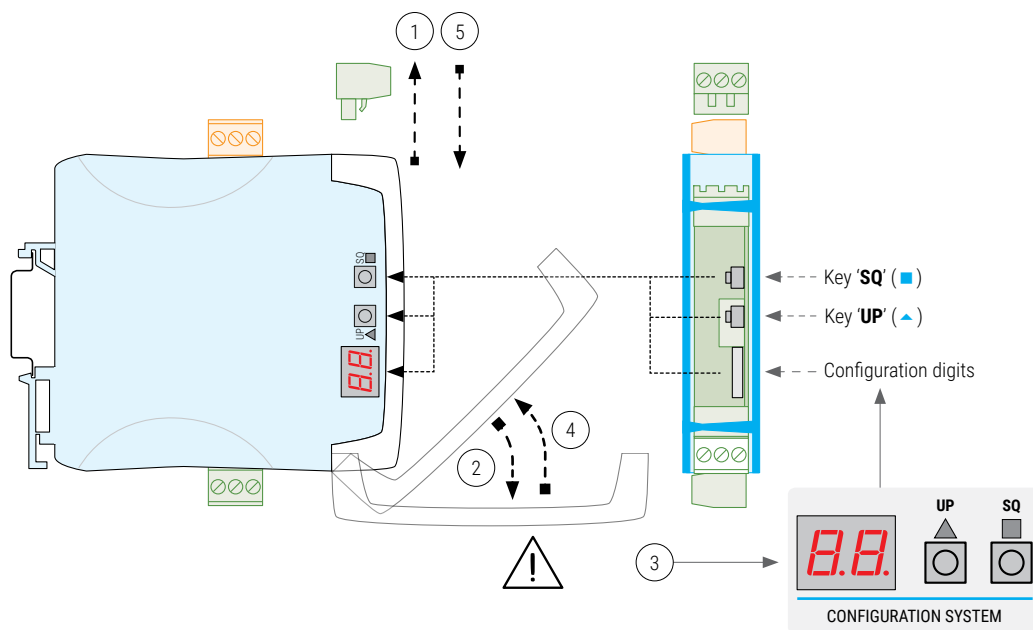
Output signal	Output terminals			Connections
	4	5	6	
4/20 mA active output	Vexc (out)	mA- (in)		
4/20 mA passive output		mA- (in)	mA+ (out)	

6. Configuration system

1. Remove the input signal terminal
2. Open the front cover
3. Configure the instrument
4. Close the front cover
5. Place the input signal terminal



Opening the front cover reduces the security level of the operator. If dangerous voltages are connected to any of the output terminals, remove both output signal terminals before opening the front cover. Operation must be performed by qualified personnel.



7. CONFIGURATION CODES - INPUT AND OUTPUT SIGNAL RANGES

To activate one of the predefined configuration codes (see Table 4) access the 'configuration system' (see section 6). To access the 'configuration menu' press the 'SQ' (▲) key, press the 'UP' (▲) key to select the desired code, and validate with the 'SQ' (■) key.

For detailed description, see the 'User's manual' (see section 8).

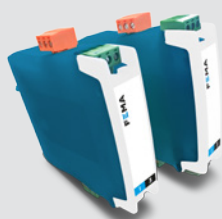
Table 4 | Configuration codes

Code	Input signal range	Output 1	Output 2
10	4/20mA	4/20mA	4/20mA
11	0/10 Vdc	4/20mA	4/20mA
12-14	[no function assigned]		---
15	Function 'password'		---
16	Factory default configuration		---
17	Firmware version		---
18	Working mode* *01' for 200mSec. response time *02' for 550mSec. response time		---
19	[no function assigned]		---
---	Exit the menu and discard changes		---

8. ADDITIONAL DOCUMENTATION

User's manual	www.fema.es/docs/5577_I3D_manual_en.pdf
Datasheet	www.fema.es/docs/5579_I3D_datasheet_en.pdf
Quick installation guide	www.fema.es/docs/5581_I3D_installation_en.pdf
Web	www.fema.es/docs/Series_I3

9. OTHER SIGNAL CONVERTERS ... AND MORE



SERIES I3 SERIES OEM

output signal 4/20 mA, 0/10 Vdc
 configuration by codes (inside)
 isolation 3 ways



SERIES I4 FULLY CONFIGURABLE

output signal 4/20 mA, 0/10 Vdc, ...
 configuration by menu (front)
 isolation 3 ways



SERIES I5 FIELD BUS

output signal Modbus RTU, CANbus, ...
 configuration by menu (front)
 isolation 3 ways



SERIES B LARGE FORMAT DISPLAYS

digit 60 and 100 mm
 reading 25 and 50 meters
 mounting wall, panel, hanging
 housing metallic IP65

50 YEARS 1969-2019	Q ISO 9001 Certified Quality	CE EN-61010-1 Security	CE EN-61326-1 Electromagnetic C.	5 YEARS Extended Warranty
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Process	Temperature	Counter	Weight	Flow	Time
Frequency	Temperature	Speed	Vac	Aac	Integrators
Potentiometer	Temperature	Period	Ade	Vdc	Resistances
Digital	Digital	Digital	Digital	Custom	