

## 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.

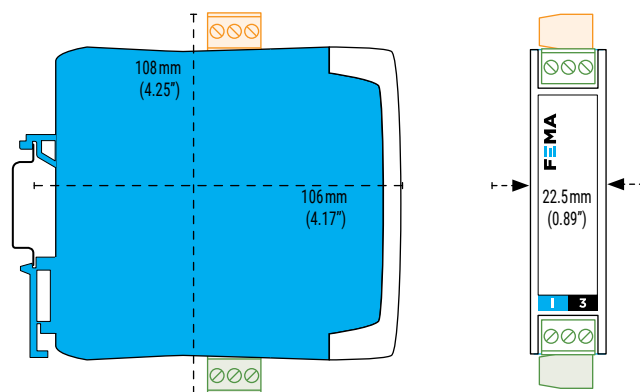
## 1. TECHNICAL SPECIFICATIONS

<b>Input signal ranges</b>	
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 $\Omega$ 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	
<b>Accuracy at 25 °C</b>	0.5% F.S. for mA, 0.3% F.S. for Vdc
<b>Thermal stability</b>	<100 ppm/°C (F.S.)
<b>Step response</b>	<200 mSec. in 'Mode 1'
0 to 99% of signal	<550 mSec. in 'Mode 2'
<b>Output 1 signal ranges</b>	
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
<b>Output 2 signal ranges</b>	
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
<b>Configuration</b>	
keypad	2 keys
display	2 digits, 7 segments, 5 mm height, red color
<b>Power supply</b>	
voltage range	24 to 240 Vac/dc $\pm 10\%$ , isolated
AC frequency	45 to 65 Hz
consumption	<4.0 W
power wires	1 mm <sup>2</sup> to 2.5 mm <sup>2</sup> (AWG17 to AWG14)
overvoltage category	2
<b>Isolation 4 ways</b>	
between all circuits	2300 Veff (60 seconds)
except output 1 - output 2	1500 Vdc (60 seconds)
<b>Environmental</b>	
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
<b>Mechanical</b>	
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

<b>I3D</b>	Process signal duplicator
<b>I3D.1442</b>	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

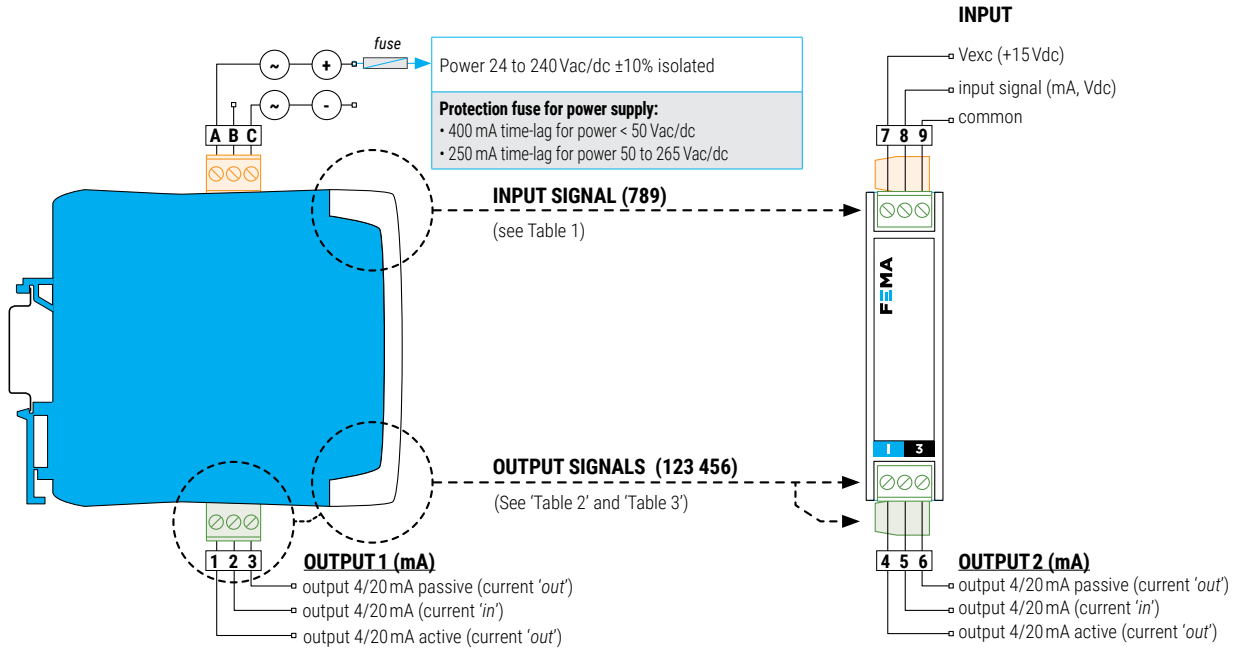


Table 1 | INPUT signal connections

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)	

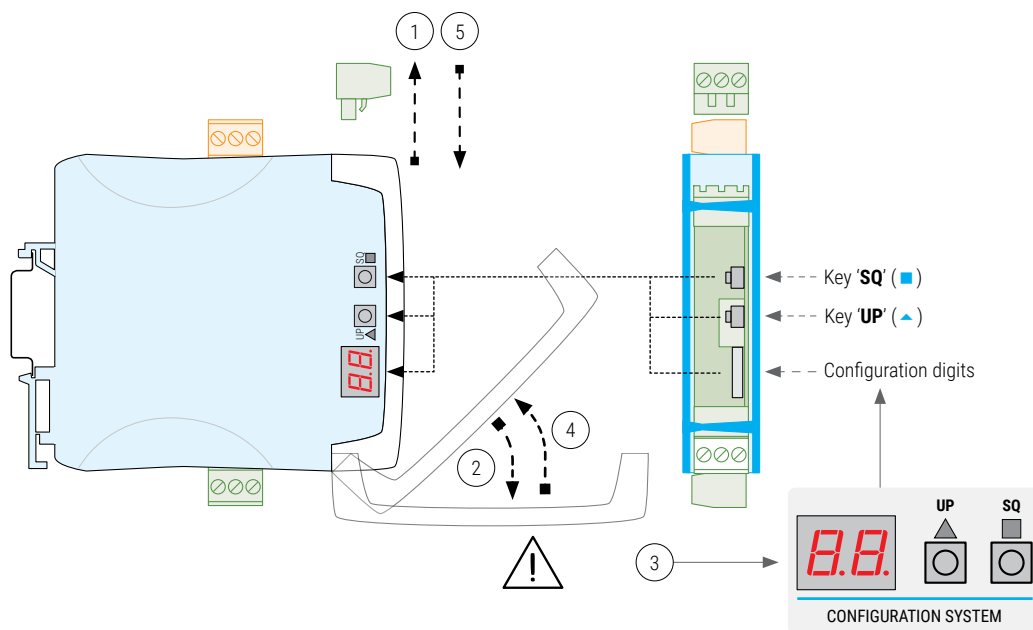
Table 3 | OUTPUT2 signal connections

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

<b>User's manual</b>	<a href="http://www.fema.es/docs/5577_I3D_manual_en.pdf">www.fema.es/docs/5577_I3D_manual_en.pdf</a>
<b>Datasheet</b>	<a href="http://www.fema.es/docs/5579_I3D_datasheet_en.pdf">www.fema.es/docs/5579_I3D_datasheet_en.pdf</a>
<b>Quick installation guide</b>	<a href="http://www.fema.es/docs/5581_I3D_installation_en.pdf">www.fema.es/docs/5581_I3D_installation_en.pdf</a>
<b>Web</b>	<a href="http://www.fema.es/docs/Series_I3">www.fema.es/docs/Series_I3</a>

## 9. OTHER SIGNAL CONVERTERS ... AND MORE



### SERIES 13 SERIES OEM

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



### SERIES 14 FULLY CONFIGURABLE

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



### SERIES 15 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

<b>50</b> YEARS 1969-2019	<b>Q</b> ISO 9001 Certified Quality	<b>CE</b> EN-61010-1 Security	<b>CE</b> EN-61326-1 Electromagnetic C.	<b>5</b> 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	