

# Dupline® Field- and Installationbus Transmitter for Analog Current Signals

## Types FFD 1530, FFD 1531, FFD 1532



- Transmitter with current input
- Current input signals:  
FFD 1530: 1 x 0 to 1 mA  
FFD 1531: 1 x 0 to 20 mA  
FFD 1532: 1 x 4 to 20 mA
- 8-bit (8 channels) resolution
- Binary transmission
- Enable input function
- D-housing
- Plug-in type module
- AC power supply

### Product Description

Dupline transmitters for external supply. Standard current signal input (0 to 1 mA, 0 to 20 mA, 4 to 20 mA). Convert analog current signals into binary codes.

### Ordering Key

**FFD 1530 024**

Type: Dupline \_\_\_\_\_  
 Input signal \_\_\_\_\_  
 Supply \_\_\_\_\_

### Type Selection

Supply	Ordering no. 1 signal 0 to 1 mA	Ordering no. 1 signal 0 to 20 mA	Ordering no. 1 signal 4 to 20 mA
24 VAC 120 VAC 220 VAC	FFD 1530 024 FFD 1530 120 FFD 1530 220	FFD 1531 024 FFD 1531 120 FFD 1531 220	FFD 1532 024 FFD 1532 120 FFD 1532 220
Code module	FMK A to FMK P	FMK A to FMK P	FMK A to FMK P

### Input Specifications

	FFD 1530 ... (8 channels)	FFD 1531 ... (8 channels)	FFD 1532 ... (8 channels)
<b>Signal input</b>	1 current input	1 current input	1 current input
Signal range	0 to 1 mA	0 to 20 mA	4 to 20 mA
Zero adjustment (X <sub>1</sub> )	None	None	None
Span adjustment (X <sub>2</sub> )	None	None	None
Span	None	None	None
Input resistance	≤ 470 Ω	≤ 47 Ω	≤ 47 Ω
Resolution	8 bits (3.92 μA/LSB)	8 bits (78.43 μA/LSB)	8 bits (62.75 μA/LSB)
Settling time	≤ 1 pulse train + 10 ms	≤ 1 pulse train + 10 ms	≤ 1 pulse train + 10 ms
Open circuit monitoring	None	None	None
Inaccuracy (ref. temp. 20°C) of full scale	≤ 1%	≤ 1%	≤ 1%
Cable length	≤ 3 m	≤ 3 m	≤ 3 m
Dielectric voltage Input - Dupline	≥ 200 VAC (rms)	≥ 200 VAC (rms)	≥ 200 VAC (rms)
<b>Transmission enable input</b>	1 contact or NPN transistor	1 contact or NPN transistor	1 contact or NPN transistor
Open loop voltage	5 VDC	5 VDC	5 VDC
Short-circuit current	1 mA	1 mA	1 mA
Operating time for signal "1"	≤ 1 pulse train + 10 ms	≤ 1 pulse train + 10 ms	≤ 1 pulse train + 10 ms
Operating time for signal "0"	≤ 1 pulse train + 10 ms	≤ 1 pulse train + 10 ms	≤ 1 pulse train + 10 ms
Contact resistance	≤ 100 Ω	≤ 100 Ω	≤ 100 Ω
Cable length	≤ 3 m	≤ 3 m	≤ 3 m
Dielectric voltage Input- Dupline	≥ 200 VAC (rms)	≥ 200 VAC (rms)	≥ 200 VAC (rms)



## Supply Specifications

<b>Power supply</b>	Overvoltage cat. III (IEC 60664)
Rated operational voltage through pins A1 & A2	220 230 VAC +6%, -15% (IEC 60038)
	120 120 VAC ± 10% (IEC 60038)
	024 24 VAC ± 10%
Frequency	45 to 65 Hz
Voltage interruption	≤ 40 ms
Rated operational power	Typ. 2.5 VA
Rated operational withstand voltage	220 4 kV
	120 2.5 kV
	024 800 V
Dielectric voltage	
Supply - Dupline	≥ 2 kVAC (rms)
Supply - Signal input	≥ 2 kVAC (rms)
Supply - Enable input	≥ 2 kVAC (rms)

## Mode of Operation

Transmitters with current signal input. The current signal is converted into a binary value represented as the binary status of an entire channel group (8 bit). This binary value may be reconverted into current or voltage signals through receivers with analogue outputs (type FAD 15..) or displayed in a scaled 7-segment display via D 6369 6475.

A signal change of 0.392% of full scale influences the least significant bit, which is the highest channel of the selected group (F8 if FMK F is plugged in). A signal change of 49.8% of full scale influences the most significant bit

or the lowest channel of the selected group (F1 in the above example).

No value is transmitted unless the transmission enable input is activated (pins 5 and 7 connected). This input may also be used to transmit up to 255 individual values on one channel group by using Dupline receivers with demultiplex output type D 1230 5111.

**Note:** Analog transmitters must not be used in systems where channel generators with 2 or 3 sequences are installed.

## Accessories

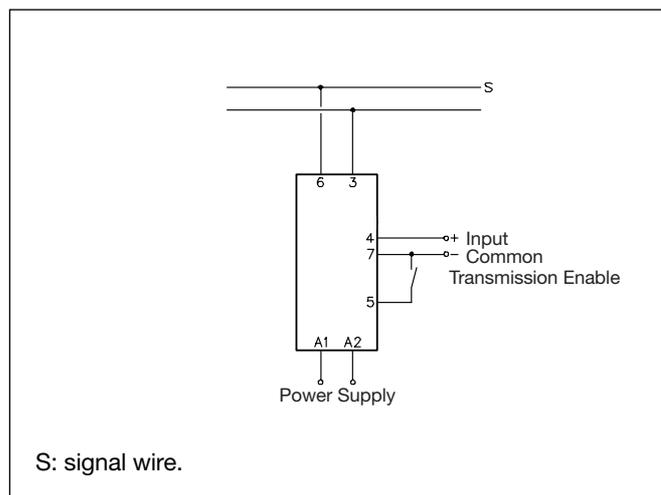
Socket◇	D 411
Socket cover	BB 5
Hold down spring◇	HF
Front mounting bezel	FRS 2
DIN-rail for D 411	FMD 411

For further information refer to "Accessories".

## General Specifications

<b>Power ON delay</b>	Undefined, ≤ 1 s
<b>Environment</b>	
Degree of protection	IP 20 B
Pollution degree	3 (IEC 60664)
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
<b>Humidity (non-condensing)</b>	20 to 80%
<b>Mechanical resistance</b>	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
<b>Dimensions</b>	
<b>Material</b> (see "Technical Information")	D-Housing
<b>Weight</b>	200 g
<b>Approvals</b>	UL

## Wiring Diagram



## Operation Diagram

