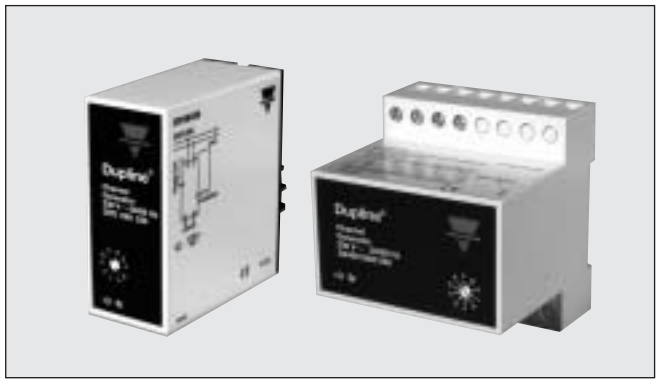
Channel Generators
Types GPD 1901, G 3490 0000

Dupline®
Fieldbus Installationbus



- **Generates 8, 16, 24, 32, 40, 48, 56, 64, 96 or 128 channels**
- **Number of channels selectable by rotary switch**
- **Number of sequences (1 or 2) selectable**
- **Quartz-controlled oscillator**
- **Cable compensation**
- **Plug-in type (GPD)**
- **DIN-rail mounting type (G3490) (EN 50022)**
- **LED-indication for supply and Dupline® carrier**
- **AC or DC power supply**

Product Description

Standard channel generators for all Dupline® systems. Number of channels selectable by means of a rotary switch.

Ordering Key

GPD 1901 024

Type: Dupline®
Channel generator
Supply

Type Selection

Supply	Ordering no. No. of channels selectable	Ordering no. No. of channels selectable
24 VAC	**GPD 1901 024**	**G 3490 0000 024**
115 VAC	**GPD 1901 115**	**G 3490 0000 115**
230 VAC	**GPD 1901 230**	**G 3490 0000 230**
15 to 30 VDC	**GPD 1901 824**	**G 3490 0000 824**

Input / Output Specifications

Inputs	1 contact
Function	2 sequences
Open loop voltage	12 VDC
Short-circuit current	1.25 mA
Contact resistance	≤ 100 Ω
Cable length	≤ 3 m
Insulation voltage	
Input - Dupline®	None
Outputs	Dupline® carrier
Number of outputs	1
Output voltage	8.2 VDC
Current	≤ 70 mA
Short-circuit protection	≤ 600 s
Output impedance	≤ 25 Ω

Outputs (cont.)

Sequence time *

Rotary switch position:	No. of channels:	Time for 1 pulse train (± 1%):
A	8	15.63 ms
B	16	23.44 ms
C	24	31.25 ms
D	32	39.06 ms
E	40	46.87 ms
F	48	54.68 ms
G	56	62.49 ms
H	64	70.31 ms
L	96	101.54 ms
P	128	132.80 ms

Distance to transmitters: 100% (refer to "Cable Selection")

* When using 2 sequences, the sequence time will be 2 times higher.

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Supply Specifications

Power supply AC types		Overvoltage cat. III (IEC 60664)
Rated operational voltage through term.: 21 & 22 (G3490) or A1 & A2 (GPD1901)	230	230 VAC ± 10% (IEC 60038)
	115	115 VAC ± 10% (IEC 60038)
	024	24 VAC ± 10%
Frequency		45 to 65 Hz
Power dissipation		4 W
Voltage interruption		≤ 40 ms
Rated operational power		Typ. 2.5 VA
Rated impulse withstand voltage	230	4 kV
	115	2.5 kV
	024	800 V
Dielectric voltage		
Supply - Dupline®		≥ 4 kVAC (rms)
Supply - Inputs		≥ 4 kVAC (rms)
Power supply DC types		Overvoltage cat. III (IEC 600664)
Rated operational voltage through term.: 21 & 22 (G3490) or A1 & A2 (GPD1901)	824	15 to 30 VDC (ripple included)
Power dissipation		3 W
Ripple		≤ 3 V
Reverse polarity protection		Yes
Current consumption		≤ 90 mA
Inrush current		≤ 1 A
Rated impulse withstand voltage		800 V
Dielectric voltage		
Supply - Dupline®		None
Supply - Input		≥ 200 VAC (rms)

General Specifications

Power ON delay	≤ 3 s
Indication for	
Supply ON	LED, green
Dupline® carrier	LED, yellow
Environment	
Degree of protection	IP 20
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)
Humidity (non-condensing)	20 to 80%
Mechanical resistance	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
Dimensions	
Material	
(see "Technical Information")	D-housing, H4-housing
Weight	250 g

Mode of Operation

The channel generators generate pulse trains and synchronize the transmission signals for an entire system of Dupline® modules. At the same time they supply non-powered Dupline® transmitters.
The selection of 1 or 2 sequences means that 1 or 2 consecutive signals of a transmitter must show identical status until the channel generator changes the duty cycle for the respective channel. This change of duty cycle causes the receivers to change their status.

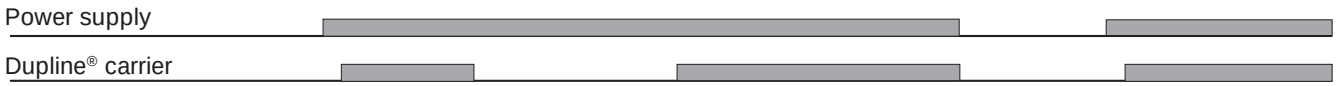
Note:
- Do not use 2 sequences if analog modules or counters are connected to the system.
- The transmission distance of a Dupline® network is reduced by 33% when using 2 sequences, compared to the figures given under "Cable Selection".

In Dupline® systems with digital transmitters and receivers the use of 2 sequences is only recommended in cases of extremely long cabling in high noise level environment. Application of 2 sequences results in absolutely correct transmission but also in a slow reaction time for the system.

HF disturbance that is induced to the Dupline® may be suppressed by interconnection of pins 4 & 6 (GPD 1901) or terminals 4 & 1 (G 3490 0000. For inductive cables a separate capacitor of less than 1 µF may be mounted between pins 3 & 6 (GPD 1901) or terminals 1 & 2 (G3490 0000). But in the majority of cases the cable appears to be capacitive requiring no additional capacitor.

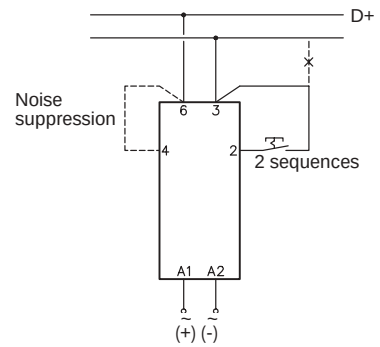
Note: It is highly recommended to place the channel generator in the middle of a Dupline® system.

Operation Diagram



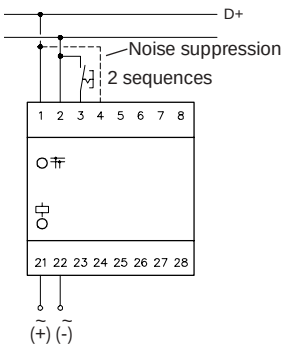
Wiring Diagrams

GPD 1901



D+: signal wire

G 3490 0000



D+: signal wire

Accessories

Socket◊	D 411-1
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".