

Channel Generator Types G 3490 0000



- 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
- cULus approved
- Quartz-controlled oscillator
- Cable compensation
- 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

G 34900000 230

Type: Dupline®
Channel generator
Supply

Type Selection

Supply

24 VAC
115 VAC
230 VAC

15 to 30 VDC

Ordering no.

No. of channels selectable

G 3490 0000 024
G 3490 0000 115
G 3490 0000 230

G 3490 0000 824

Input/Output Specifications

Inputs

Function	1 contact 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

Number of outputs	Dupline® carrier 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:
A	8
B	16
C	24
D	32
E	40
F	48
G	56
H	64
L	96
P	128

Distance to transmitters

Time for 1 pulse train (± 1%):

15.63 ms
23.44 ms
31.25 ms
39.06 ms
46.87 ms
54.68 ms
62.49 ms
70.31 ms
101.54 ms
132.80 ms

100%
(refer to "Cable Selection")

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

Supply Specifications

Power supply AC types	Overvoltage cat. III (IEC 60664)
Rated operational voltage through term.: 21 & 22	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	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")	H4-housing
Weight	250 g
Approvals	IEC/EN 61508-SIL3 EN954 cat 4 TÜV Rheinland Group c(U)us

Mode of Operation

The channel generator generate a pulse trains and synchronize the transmission signal for an entire system of Dupline® modules. At the same time it 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

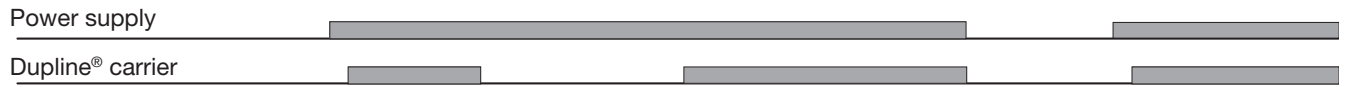
results in absolutely correct transmission but also in a slow reaction time for the system.

HF disturbance that is induced to the Dupline® may be suppressed by interconnection of terminals 4 & 1. For inductive cables a separate capacitor of less than 1 µF may be mounted between terminals 1 & 2. But in the majority of cases the cable appears to be capacitive requiring no additional capacitor.

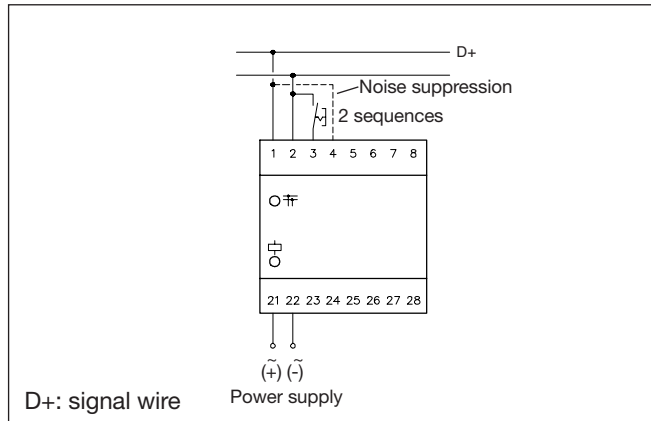
Note: It is highly recommended to place the chan-

nel generator in the middle of a Dupline® system.

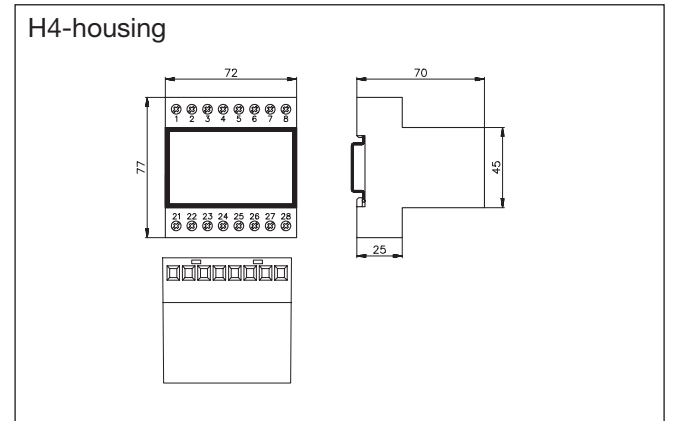
Operation Diagram



Wiring Diagrams



Dimensions (mm)



Accessories

DIN-rail

FMD 411

For further information refer to "Accessories".