

# Fiber Optic Interface Type G 3491 0000



- Dupline® to fibre optics interface
- Computer to Dupline® network access
- Fibre optic LAN-ring for up to 63 Dupline® systems
- Galvanic isolation 4000 VAC
- Watchdog output
- For mounting on DIN-rail (EN50022)
- LED-indications for supply, Dupline® and fail
- AC power supply

## Product Description

Dupline® interface for signal transmission via fibre optics. For applications in environments with high noise transients, for signal transmission in explosive areas or for connections of up to 63 autonomous Dupline® installations in a fibre optics LAN.

## Ordering Key

**G 3491 0000 230**

Type: Dupline® \_\_\_\_\_  
 Type number \_\_\_\_\_  
 Power supply \_\_\_\_\_

## Type Selection

Supply	Ordering no.
24 VAC	G 3491 0000 024
115 VAC	G 3491 0000 115
230 VAC	G 3491 0000 230

## Supply Specifications

<b>Power supply</b>	Overvoltage cat. III (IEC 60664)
Rated operational voltage through term. 21 & 22	230
	230 VAC ± 15% (IEC 60038)
	115
	115 VAC ± 15% (IEC 60038)
	024
	24 VAC ± 15% (IEC 60038)
Frequency	45 to 65 Hz
Rated operational power	Typ. 3 W
Power dissipation	≤ 4 W
Rated impulse withstand voltage	230
	115
	024
Dielectric voltage Supply-RS232C	4 kV
	2.5 kV
	800 V
	≥ 4 kVAC (rms)

## Input/Output Specifications

<b>Fibre optics interface</b>	
Material	Polymer
Type	Dstep-index
Max. loss	220 dB/km (660 nm)
Typical loss	190 dB/km (660 nm)
Numerical aperture	0.47
Dimensions	2.2 ± 0.1 mm
Cable length	≤ 50 m
Connector type	2 sockets Hewlett Packard types HFBR-4513 (blue) HFBR-4503 (black)
<b>Output</b>	1 NPN transistor
Function	Watchdog
Output voltage	≤ 35 VDC
Output current	≤ 100 mA
Output voltage drop	≤ 2 V
Off-state leakage current	≤ 100 µA
Short-circuit protection	None
Built-in protective diodes	None
Dielectric voltage	
Output - Dupline®	≥ 4 kVAC (rms)
Inductive loads	External noise suppression required
<b>Settings</b>	
Device no.	6 DIP-switches
Baudrate	DIP-switch
Test mode	DIP-switch

## General Specifications

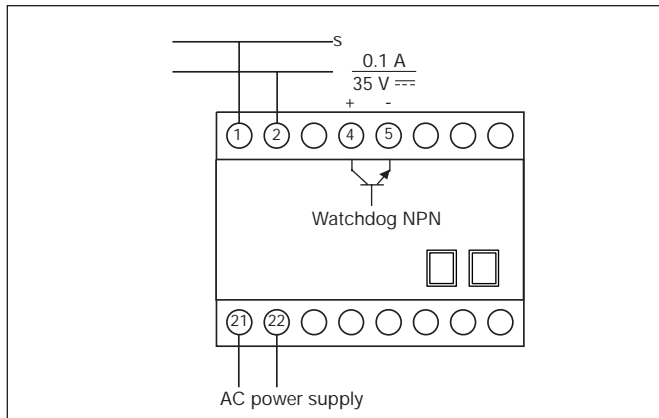
<b>Power ON delay</b>	< 200 ms
<b>Indication for</b>	
Supply ON	LED, green
Dupline® carrier	LED, yellow
Fail	LED, red
<b>Environment</b>	
Degree of protection	IP 20
Pollution degree	3 (IEC 60664)
Operating temperature	0° to +50°C (+32° to +122°F)
Storage temperature	-20° to +85°C (-4° to +185°F)
<b>Humidity (non-condensing)</b>	20 to 80% RH
<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")	H4-housing
<b>Weight</b>	250 g

## Selection of Device No. and Baudrate

## Wiring Diagram

The desired device no., baudrate and test is set by means of 8 DIP-switches at the rear of the housing

SW	ON	OFF
1	Test mode	Normal
2	19200 Baud	9600 Baud
3-8	Device no.	



## Mode of Operation

The Optolink is used for one of the following 3 purposes:

### 1. Dupline® LAN-Ring with Computer Interface

In the majority of applications the Optolink is used to build up a local area network of up to 63 Dupline® systems. With this a maximum of 8064 Dupline® channels may be controlled and monitored by a computer. The LAN-ring is created through fibre optic cable with a maximum distance of 50 m between Optolinks. The connection to the computer is established by means of the interface G

3491 0090. Each Optolink is set up for a unique device number between 01 and 63 while the computer is device number 00. The computer can read/write data from/to individual Optolinks by referring to the device numbers. For protocol and communication information please refer to the data brochure DAT OPL ENG.

### 2. Split of a Dupline® System

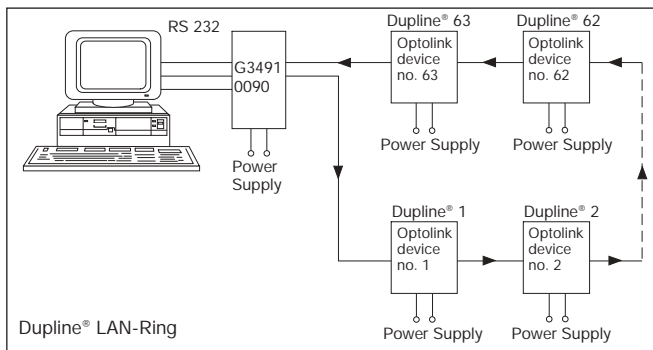
In case of Dupline® routing through areas with high electromagnetic interference or through potentially explosive areas the signal transmission

is to be done via fibre optic cabling. The great advantage of this is that optical transmission is totally immune to electrical and magnetic disturbance. For this application a Dupline® system is split into two systems with one Optolink each. The connection between the two systems is done by fibre optic cables. Here both Optolinks must be set up for device number 00. Establishment of communication is automatic and no other adjustments or software is required by the user.

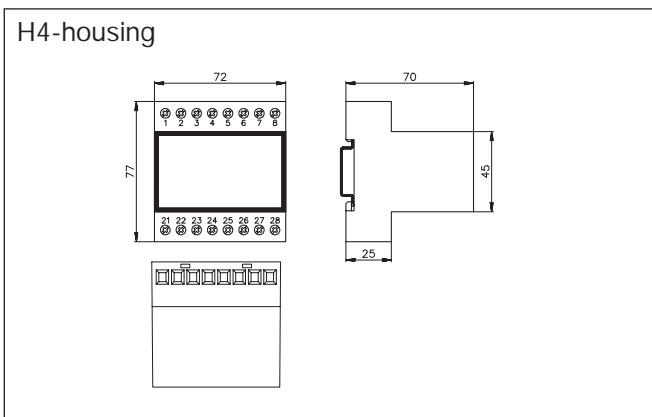
### 3. Dupline® System Distance Increase

If Dupline® is used in very extensive applications where no other means of communication, e.g. telephone line is available, several Optolinks may be daisy-chained.

If, for instance, two Dupline® systems are connected via Optolink the distance is doubled (2 x 10 km). The procedure and set-up is the same as under 3 above but it should be noted that the reaction time per pair of Optolinks increases by app. 0.45 s.



## Dimensions (mm)



## Accessories

Optical Plugs	HFBR-4513 (blue) HFBR-4503 (black)
Fibre Optic Cable, single	Link Fibre-S-X.. (.. = length in m)
Fibre Optic Cable, dual	Link Fibre-D-X.. (.. = length in m)
Data brochure	DAT OPL

## Scope of supply

1 x Optolink	G 3491 0000
20 cm fibre optic cable	Link Fibre-S
2 x Optical plugs	HFBR-4513 (blue) HFBR-4503 (black)