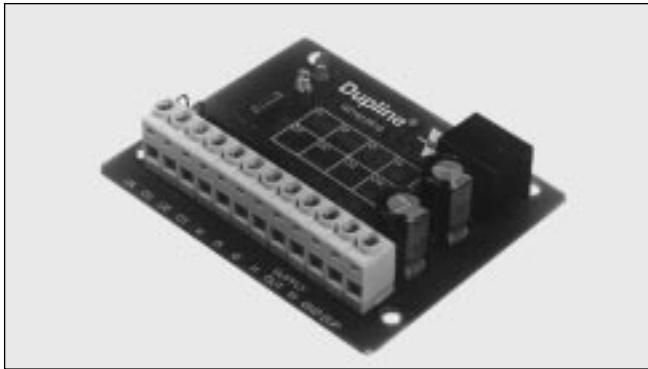# Dupline® Field- and Installationbus I/O-Module for Elevators Type G 2140 55.0 700

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- 4 push-button inputs
- 4 PNP- or NPN-transistor outputs
- Open printed circuit board
- Bracket for DIN-rail mounting available
- LED-indications for supply and Dupline® carrier
- DC-supply
- 3-wire system with Dupline® and supply of module and output load through G 3485 0000 700
- Channel coding by GAP 1605

Product Description

Direct interface to the I/O's of elevator floor stations, lift-car signals and lift controls. The input pulses are prolonged to 0.5 s to ensure transfer of fast pushbutton activations. Due to the small size of the module it can be integrated into most pushbutton panels.

Only 3-wires needed to connect any number of I/O-units (including the DC-supply for the output load). Installer-friendly mounting, operation and maintenance without requirements for any special tools or programming.

Ordering Key

G 2140 5520 700

Type: Dupline	
Open PCB	
I/O-module	
Number of I/Os	
I/O-type	
DC-supply	

Type Selection

Supply	Ordering no. NPN-outputs	Ordering no. PNP-outputs
10-30 VDC	**G 2140 5510 700**	**G 2140 5520 700**

Output Specifications

	G 2140 5510 700	G 2140 5520 700
Outputs	4 NPN-transistors	4 PNP-transistors
Output voltage drop	≤ 1.2 V	
Output voltage		Typ. V_{in} -2.0 V
		≥ V_{in} -2.8 V
Current pr. output	≤ 200 mA	≤ 200 mA
Max. total load	≤ 500 mA	≤ 500 mA
Short circuit protection	None	None
Built-in protective diodes	Yes	Yes
Off-state leakage current	≤ 100 µA	≤ 200 µA
Response time	1 pulse train (136 ms @ 128 ch.)	1 pulse train (136 ms @ 128 ch.)

Input Specifications

Inputs	4 contacts or NPN-transistor
Open loop voltage	8.0 VDC
Short circuit current	180 µA
Start peak current	7 mA
Contact resistance	≤ 100 Ω
Cable length	≤ 3 m
Transmission delay	
Input OFF - ON	≤ 20 ms + 1 pulse train
Input ON - OFF	≤ 550 ms

Supply Specifications

Power supply	Overvoltage cat. III (IEC 60664)
Rated operational voltage (V_{in})	10-30 VDC (ripple included)
Ripple	≤ 3 V
Reverse polarity protection	Yes
Current consumption	≤ 20 mA
Inrush current	≤ 1 A
Transient protection voltage	800 V
Dielectric voltage	
Supply - Dupline	None
Supply - Inputs	None
Supply - Outputs	None

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General Specifications

Power ON delay	Typ. 2 s
Indication for	
Supply ON	LED, green
Dupline carrier	LED, yellow
Environment	
Operating temperature	-20° to +50°C (-4° to +122°F)
Storage temperature	-50° to +85°C (-58° to +185°F)
Humidity (non-condensing)	20 - 80%
Mechanical resistance	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
Dimensions	Open PCB 74 x 59 mm
	4 pcs. of nylon PA6 snap locks are included for mounting the PCB in ø 4.8 holes
Weight	100 g

Pin Allocation

Terminal	Input/Output
DUP	Dupline® signal
GND	Dupline® + supply GND
+24 IN	Supply IN
+24 OUT	DC for output loads
I 1	Input 1
I 2	Input 2
I 3	Input 3
I 4	Input 4
O 1	Output 1
O 2	Output 2
O 3	Output 3
O 4	Output 4

Accessories

Aluminium bracket for
DIN mounting   8047 - bracket
DIN-rail   FMD 411

Mode of Operation

The I/O-units use three wires for the communication with all the other I/O-units of an installation, for the supply of the I/O-units and for the loads connected to the outputs of the units. This implies, that the "common" of the communication signal is identical to the "minus" of the supply. The DC-supply voltage must connect to the system through a G 2196 0000 700, which also performs the channel generator function and the RS485 communication link to elevator controller (please refer to the data sheet for G 2196 0000 700 for details).

Each I/O-unit has 4 inputs (NPN/contact) and 4 outputs (NPN or PNP). Every input an output is given its individual address with the coding unit GAP 1605 (please refer to the respective data sheet for details). The ON/OFF-signal that is applied to the input of an I/O-unit is associated to the address given to that input. Any output of an I/O-unit that is given the identical address will now follow that input signal and switch its output signal ON or OFF. This means that a signal which is input at one location (for example as an output from the lift controller) may be output wherever required and as many times as required.

An input pulse stretcher is used on every input to assure that the changes of input signals (even extremely short ones) are communicated by the system.

The output status of all outputs of an I/O-unit may be pre-defined for cases like loss of power and loss of communication. Please refer to the paragraph "Output status setting" of the data sheet for the GAP 1605 to change the default setting (all outputs OFF).

Wiring Diagrams

     Specifications are subject to change without notice (03.09.99)