

Supply Coupling Unit Type G 3485 0000



- For systems using a combined communication-supply bus (3-wires)
- Input from a standard 15... 30 VDC power supply
- Coupling of transmission- and supply-common
- Output current 4 A max.
- H4-housing

Product Description

The supply coupling unit is mainly used in those applications, where multiple Dupline® modules of the type G21...700 are to be supplied through a DC-bus. Since these modules use the same wire for the common of the transmission signal and the

"minus" of the DC-supply, the G 3485 000 assures proper coupling of the supply to maximise the noise immunity of the entire installation. To supply a current ≤ 4 A (up to 25°C) / ≥ 3 A (under 50°C), multiple coupling units may be installed in parallel.

Ordering Key

G 3485 0000 700

Type: Dupline®
H4-Housing
Power supply

Type Selection

Supply	Ordering no.
15 to 30 VDC	G 3485 0000 700

Output Specifications

Output	
Output voltage V_{BB}	15 to 30 VDC (pulsating)
Output current	≤ 4 A (up to 25°C) ≥ 3 A (under 50°C)
Short-circuit protection	None
Output voltage drop	≤ 1 VDC

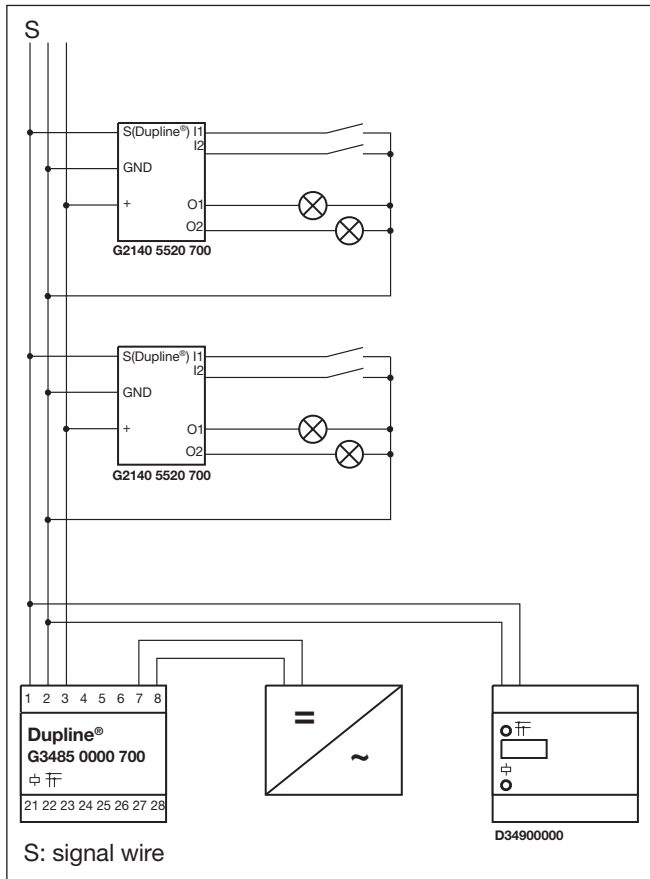
Supply Specifications

Power supply	Installation cat. III (IEC 60664)
Operational voltage through term. 7 (+) & 8	15 to 30 VDC (ripple included)
Ripple	≤ 3 V
Reverse polarity protection	Yes
Current consumption	≤ 30 mA
Power consumption	$\leq 0,5$ W
Inrush current	≤ 200 mA
Transient protection voltage	800 V
Insulation voltage	
Supply - Dupline®	None
Supply - output	None

General Specifications

Indication for	
Dupline® carrier	LED, yellow
Supply	LED, green
Environment	
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)
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	200 g

Wiring Diagram



Mode of Operation

The supply coupling unit was designed for all those applications where DC-supplied Dupline® modules of the type G 21...700 are used. The characteristic of these modules is, that the common of the transmission signal is identical to the minus of the supply. The catalogue states that such modules shall not be supplied by a DC-bus which exceeds the distance of 3 m. In the worst case this means that an individual DC-supply unit must be used for every module. In some applications this is impossible because there is no power available at site. The supply of such units through a DC-bus can now be done through the use of the G 3485 0000.

The supply voltage at the input terminals of the unit is coupled to the output terminals via a switching device that is synchronised by the Dupline® signal carrier. The supply is decoupled from the 3-wire during the short periods of signal transmission where a load current could cause disturbances. The maximum current per coupling unit is ≤ 4 A (up to 25°C) / ≥ 3 A (under 50°C). Multiple coupling units may be connected to the same supply in parallel if the maximum current consumption of the system (supply of Dupline® modules and supply of load) exceeds the maximum output for a single unit.

Accessories

DIN-rail

FMD 411

For further information refer to "Accessories".

Design Rules

Note the output voltage drop of ≤ 1.0 V. This, together with the output voltage drop of G 2140 5507 00, should be taken into consideration when selecting the output voltage of the standard DC-supply. Also, the DC-supply must be able to supply twice the total load current, since the output voltage of G 3485 0000 700 is pulsating. There is a limit for the voltage drop V_{CW} in the common wire.

If the entire load is in the far end from the G34850000700, then the max. V_{CW} is 2.0 V.

The above limitations can be overcome by adding another DC-supply with G34850000 700 along the line. Whenever another pair (G34850000700 and DC-supply) is added the two pairs will supply half the load current running in half the wire resistance and hereby the V_{CW} - limit is increased by a factor of 4.

$$V_{CW} = R_{CW} \times I_{TL}$$

R_{CW} : Resistance in the common wire

I_{TL} = Total load current

If the load is distributed uniformly along the 3-wire, then max. V_{CW} is 3.5 V.

Dimensions (mm)

