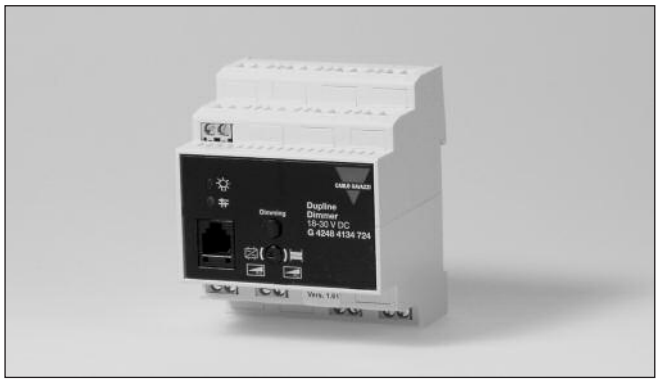
Dimmer
Type G 4248 4134



- **Switching and dimming of lamps**
- **4 control-channel receiver**
- **Negative or positive phase angle dimming**
- **For DIN-rail mounting**
- **LED-indications for Alarm and Dupline® carrier**
- **Soft-start function for lamp protection**
- **Channel coding by GAP 1605**
- **Supplied by Dupline® or 24 VDC external**

Product Description

The G4248 4134 lighting scene dimmer is a component of the Dupline Installation System. It permits different types of lamps with wattages up to 600 W to be operated and dimmed and enables up to 6 lighting arrangements to be stored which can then be retrieved at any time. In addition, it transmits the status of the dimming output and current alarms.
The dimmer setting which was selected last is stored as a "memory setting" in the internal memory and is reselected next time the lighting is switched on via channel 2 or by the control button on the front panel. A power failure will erase the memory setting.
The brightness of the lighting scenes is preset at the factory in steps; these settings cannot be altered. By the aid of push-button combinations (preferably via the "Master Function" option provided in the configuration software) or by means of the test unit, the lighting scenes can be unlocked, modified and also retrieved.

In addition to the load output, the dimmer is equipped with a control output to which up to ten load modules can be connected in order to increase the dimming capacity.
With the change-over switch on the front panel, it is possible to select either phase angle control or AC modulation control dimming. The lighting is switched on via a bulb-conserving softstart facility.
The dimmer is electronically protected at the power output against overload and short circuits. The "☼" LED on the front indicates both faults by means of different flashing frequencies. An alarm caused by an overload will automatically be reset upon removal of the overload. An alarm caused by a short circuit must be reset manually after rectifying the fault by disconnecting the phase from the mains supply for approximately 3 seconds. The "☼" LED is also used to indicate the output status of the dimmer.
The front panel is also equipped with a push-button which, when pressed, corresponds to the function of channel 2 (Dimming/On/Off).

Output Specifications

Outputs	1
Dimming capacity	600 W
Rated operational voltage	230 VAC –15% / +10%
Dimming speed	4 s (10% - 100%)
Response time	1 Cycle: ≤ 272 ms @ 128 channels)

Ordering Key

G 4248 4134 724

- **Type: Dupline®**
- **"H4"- Housing**
- **Dimmer**
- **4 Channels**
- **1 Output**
- **MOSFET 600W Analog**
- **Power Supply**

Type Selection

Supply	Ordering no.
By Dupline® or 24 VDC external	**G 4248 4134 724**

Supply Specifications

Power Supply	Supplied by Dupline®
Rated operational current	typ. 10 µA
Power Supply	24 VDC (18 V to 30 VDC)
Rated operational current	typ. 13 mA

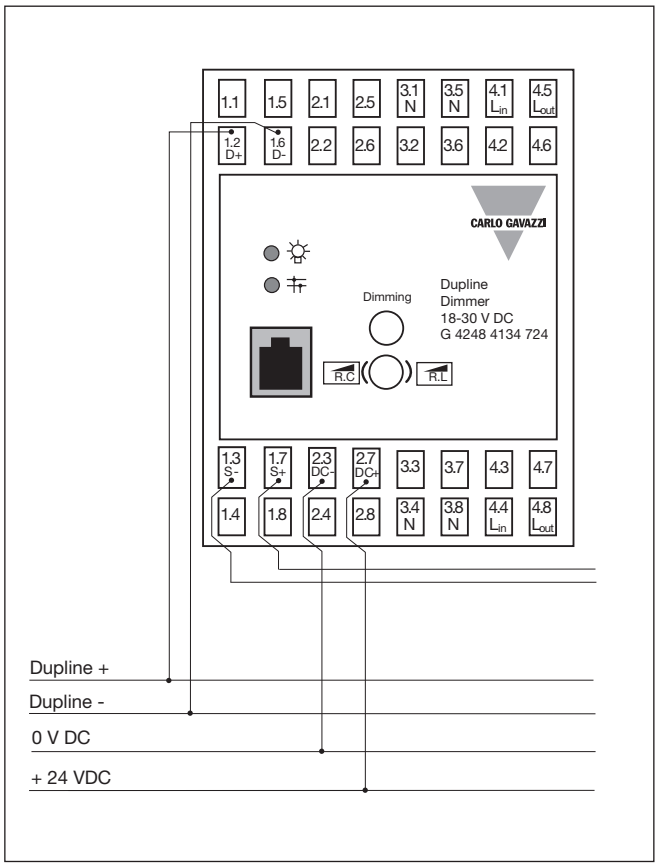
General Specifications

Power ON delay	Undefined
Indication for	
☼ Red LED:	"off" - output switched off "on" - output switched on, unproblematic operations.
Slow flashing:	Overload (1 Hz)
Quick flashing:	Short circuit, overvoltage, load outage, wrong operation mode
Dupline® carrier	LED, Yellow
Environment	
Operating temperature	-10° to +45°C (14° to +113°F)
Humidity (non-condensing)	Max. 85%
Housing	Distribution-board housing for DIN-rail mounting acc. to DIN EN 50022

General Specifications (cont.)

Material	Polycarbonate (PC)
Size (W x H x D)	72 x 85 x 58 mm/4 PD
Terminals	U-clamp terminals
Terminal capacity	Min. Ø 0.4 mm up to max. 2.5 mm^2
Operating Device	Button with memory in/out/ dimming function Switch for selection of negative/positive phase angle control
Standards	IEC 60669, EN 55022/ EN 50081-1 and EN 55024/ EN 50082-1

Wiring Diagram



Accessories

It is possible to connect up to 10 slave Dimmers (500W/1500W) to one G 4248 4134.

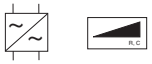
Mode of Operation

Coding
With the GAP1605 programming unit, each switching channel can be assigned any adress between A1 and P8 via the modular socket on the front of the dimmer. The allocation of the channels is as follows:

Channel	Description
1	Central Off - Lighting scenes 3/4/6
2	Dimming / On / Off
3	Lighting scene 1 (3/5/6)
4	Lighting scene 2 (4/5/6)
5	Ackn. signal dimming output
6	Not assigned
7	Not assigned
8	Not assigned

Functions which are not required should remain uncoded. The coding of the dimmer can be carried out without either supply voltage or Dupline signal. It is retained permanently but may be overwritten at any time.
The channels are configured in such a way at the factory that they will be switched off in the event of a fault. This configuration, too, can be changed with the GAP1605. Setting “1” results in switching on the lighting to 100% after 3 seconds in case of the event of a fault, while setting “0” does not influence the dimming output (factory setting). If the value “0” has been selected, the dimmer can be operated using the push-button at the front panel in the event of a fault (even without bus signal); the push-button has the same functionality as channel 2 (Dimming/On/Off).

Putting into service
Commissioning may only be carried out by an authorized, trained technician. Observe the connection diagram when installing. All lines to be connected must be dead.
The N-connection is absolutely necessary for the operation of the dimmer. The desired operating mode should be selected before connecting the phase, because the switch is disabled during operation as a safeguard against accidental resetting.



Turn to the left: AC modulation control

Turn to the right: Phase angle control

Although an incorrect setting will result in malfunction, it will not cause irreparable damage to the dimmer. The following table shows the allocation of terminals:

Terminal	Description
4.4/4.8	Line in/Line out - dimming channel
3.4/3.8	N-conductor input
1.2	Dupline signal conductor + (D +)
1.6	Dupline signal conductor - (D -)
1.3	Control of slave dimmer. Output S -
1.7	Control of slave dimmer. Output S +
2.3	0 VDC (DC -)
2.7	+24 VDC (DC +)

Mode of Operation (cont.)

Connections between the Dupline signal and the 24 V supply, or connection to earth potential, will cause malfunctions and are not permissible. Attention should be paid to the correct polarity of the supply voltage and the Dupline signal.
In order to meet the requirements for protective low voltage, VDE 0100, part 410, should be observed and applied during installation.

Functions and programming
The dimmer is programmed with the GAP1605 programming unit. Up to five addresses can be programmed, four of which (IN/OUT 1-4 of the GAP1605) are dedicated to controlling the dimmer itself (light level) - see the following table "Factory Settings". The remaining fifth address (IN/OUT 5 of the GAP1605) is an output signal on the bus and indicating if the dimmer is activated. The addresses are selected in the configuration software as push button channels.

The five addresses (including one status signal address)

Address	Description
1	Turn off
2	Dimmer up/down (long activation) Turn on/Turn off (short activation)
3	Desired light level, see "Factory Settings"
4	Desired light level, see "Factory Settings"
5	Dimmer activated

The light levels 3, 4, 5 and 6 can be programmed by combining 2 or 3 addresses. The easiest way is to use the master function in the Master Generator to set up the address combination.

Factory Settings

Inputs (GAP1605 programming)					
	Address				**Light level**
	1	2	3	4	(factory setting)
Long/short activation		■			10 % to 100 %
0 %	■				Turn OFF Not changeable
Light level 1			■		55 %
Light level 2				■	100 %
Light level 3	■		■		25 %
Light level 4	■			■	40 %
Light level 5			■	■	70 %
Light level 6	■		■	■	85 %
100 %*	■	■	■	■	100 % Not changeable

* *When the function 100% light level is selected, the addresses must be activated for more than 3 seconds before the function is initiated.*

The shown values are factory settings and thus they are protected against accidental resetting. Nevertheless, it is possible to disable the protection to change the default values.

The following steps 1-4 explain how the protection can be disabled, the values changed, the protection reestablished and default settings restored.

1. Programming access
a) Activate address 1 for minimum 3 seconds.
b) Continue activation of address 1 and activate simultaneously address 4 five times with a duration of minimum 0.5 second for every activation.
c) When the light shortly turns off (approx. 0.5 s), the programming access is open.

2. New light level
a) Open for the programming access according to **1. Programming access**.
b) Use address 2 to set the required light level.
c) Activate, for more than 3 seconds, the address to which the chosen light level is to be allocated.
d) When the light turns shortly off (approx. 0.5 s), the new parameters are accepted and stored.

Undesirable changes of the programmed parameters can be avoided by reestablisment of the programming protection - see **3. Protection**.

3. Protection
a) Activate address 1 for minimum 3 seconds.
b) Continue activation of address 1 and simultaneously activate address 3 five times with a duration of minimum 0.5 second for every activation.
c) When the light shortly turns off (approx. 0.5 s), the programming access is closed.

4. Restoring of factory settings
a) Activate address 1 for minimum 1 second.
b) Continue activation of address 1 and simultaneously activate addresses 3 and 4.
c) When the light shortly turns off (approx. 0.5 s), the factory settings are restored.

When the factory settings are restored the programming protection is active.

LED indicators
Front-mounted LEDs indicate the status of the device:

LED	Description
YELLOW "Bus OK"	*Dupline carrier:* OFF: Bus fault ON: Bus is OK
RED	*Monitoring:* "off" - output switched off "on" - output switched on, unproblematic operations. Slow flashing: Overload (1 Hz) Quick flashing: Short circuit, overvoltage, load outage, wrong operation mode

Dimensions (mm)

H4-housing