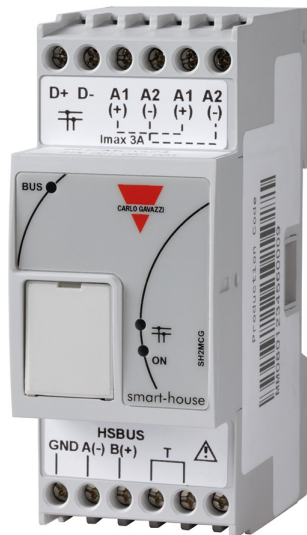


# SH2MCG24



## Smart-Dupline® generator



### Benefits

- **Integrated system.** Dupline® is the brand name for Carlo Gavazzi's 2-wire bus system.
- **Cost reduction.** The use of a bus system is a proven way to reduce installation costs – especially when the distance between I/O points are extensive.
- **Fast and easy installation.** Completely free topology, no special cable required, no screen or twist. It can go for 2 km and even further with repeaters.
- **High noise immunity.** Can run next to power cables.
- **Scalability.** The system can be progressively integrated with new modules according to the application needs.
- **Modularity.** The system is composed by many modules, powered by the bus, so that each installation can be precisely and easily sized.

### Description

The master channel generator SH2MCG24 provides the channel generator output drive for one Smart Dupline® network in a smart-house system controlled by the Sx2WEB controller. Each SH2MCG24 must have an address that has to be programmed using the Sx tool.

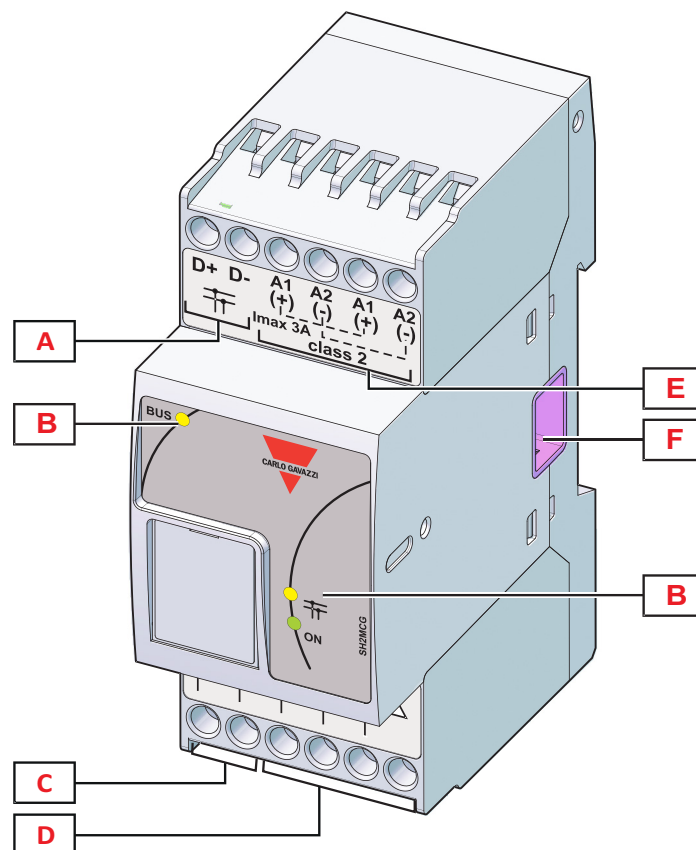
### Applications

Smart Dupline® is a bus system that offers unique solutions for a wide range of applications in home and building automation, industrial automation, water distribution, energy management, railway systems and many other areas.

### Main features

- Transmit digital and analogue data collected from the wide ranges of modules.
- Data are sent to the controller Sx2WEB24 that elaborates them according to the programmed logic.
- Up to 7 SH2MCG24 can be connected on the same network, taking into consideration the sum of SH2MCG24, SH2DUG24 and SH2WBU230x.
- Connection to Sx2WEB24 via internal bus or terminals via the high speed bus.

## Structure

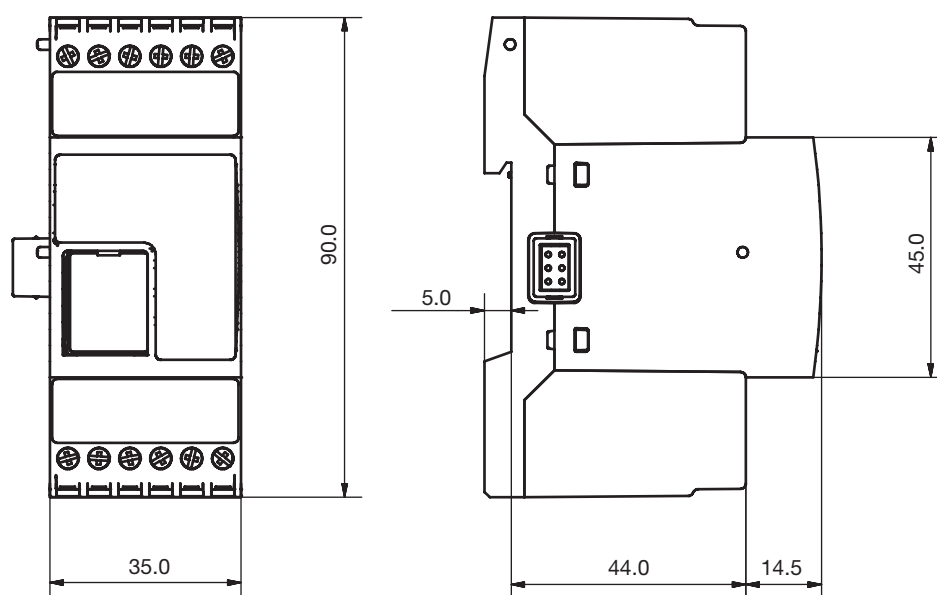


Element	Component	Function
A	Dupline bus	Connection to smart Dupline® modules
B	Information LED	Indicating the following status: Green LED: Power supply Yellow LEDs: Dupline® bus and HS bus communication
C	HS bus	HS bus connection
D	HS bus termination	Termination for HS bus
E	Power supply	Power supply connection block (IN, left/OUT, right) (Min./Max. screws tightening torque: 0.4 Nm / 0.8 Nm)
F	Local bus port (left side and right side)	Left side: connecting the Sx2WEB24, SH2MCG24, SH2WBU230N, SH2DUG24, Dupline modules. Right side: connecting the SH2MCG24, SH2WBU230N, SH-2DUG24, Dupline modules.

## Features

### General



<b>Material</b>	Noryl
<b>Dimensions</b>	2-DIN module
<b>Weight</b>	150 g
<b>Protection grade</b>	Front: IP50; Screw terminal: IP20
<b>Dielectric strength</b>	Power supply to Dupline®: 500 V AC for 1 min. ( IEC60664-1, TAB. A.1)
<b>Fail-safe condition</b>	If the SH2MCG24 loses the communication with the Sx2WEB24, the Dupline® output will be switched off. In this situation all the modules connected to the bus will go into the fail-safe output status individually programmed with the Sx tool.
<b>Terminal</b>	12 screw-type; Section: 1.5 mm <sup>2</sup> maximum; Torque: 0.4-0.8 Nm



### Environmental

<b>Operating temperature</b>	-20° to +50°C (-4° to 122°F)
<b>Storage temperature</b>	-50° to +85°C (-58° to 185°F)
<b>Humidity (non-condensing)</b>	20 to 80% RH

### Compatibility and conformity

<b>Electromagnetic compatibility (EMC) - immunity</b>	EN 61000-6-2 Electrostatic discharge: EN 61000-4-2 Radiated radiofrequency: EN 61000-4-3 Burst immunity: EN 61000-4-4 Surge: EN 61000-4-5 Conducted radio frequency: EN 61000-4-6 Power frequency magnetic fields: EN 61000-4-8 Voltage dips, variations, interruptions: EN 61000-4-11
<b>Electromagnetic compatibility (EMC) - emissions</b>	EN 61000-6-3 Conducted and radiated emissions: CISPR 22 (EN55022), cl. B Conducted emissions: CISPR 16-2-1 EN55016-2-1) Radiated emissions: CISPR 16-2-3 (EN55016-2-3)
<b>Approvals</b>	 

### Power Supply

<b>Power Supply</b>	Overvoltage cat. II (IEC 60664-1, par. 4.3.3.2); Rated operational voltage: 15 to 24 VDC $\pm$ 20%
<b>Operational voltage range</b>	10 to 30 VDC (ripple included)
<b>Rated operational power</b>	6.5 W
<b>Protection for reverse polarity</b>	Yes
<b>Connection</b>	2xA1 (+) and 2xA2 (-) (2 pairs of terminals internally connected)
<b>Power on delay</b>	Typ. 4 s
<b>Power off delay</b>	1 s

### Dupline®

<b>Voltage</b>	8.2 V
<b>Maximum Dupline® voltage</b>	10 V
<b>Minimum Dupline® voltage</b>	4.5 V
<b>Maximum Dupline® current</b>	450 mA @ 25°; 350 mA @ 40°
<b>Terminal</b>	D+ and D- Note: The Dupline® bus is located on the upper connector and also on the local bus connector on the right side of the module.
<b>Addressing</b>	The address of the SH2MCG24 is defined in the Sx tool, and then assigned to it by the Sx2WEB24 according to the SIN.

## HS Bus

<b>Bus type</b>	RS485 high speed bus
<b>Protocol</b>	Internal proprietary protocol
<b>Number of slave</b>	Maximum 7
<b>Connection</b>	By local bus (left and right connectors) or terminals GND, A(-), B(+). T1, T2: termination inputs. They have to be short-circuited on the last module of the network. See wiring diagrams.

## Connection Diagrams

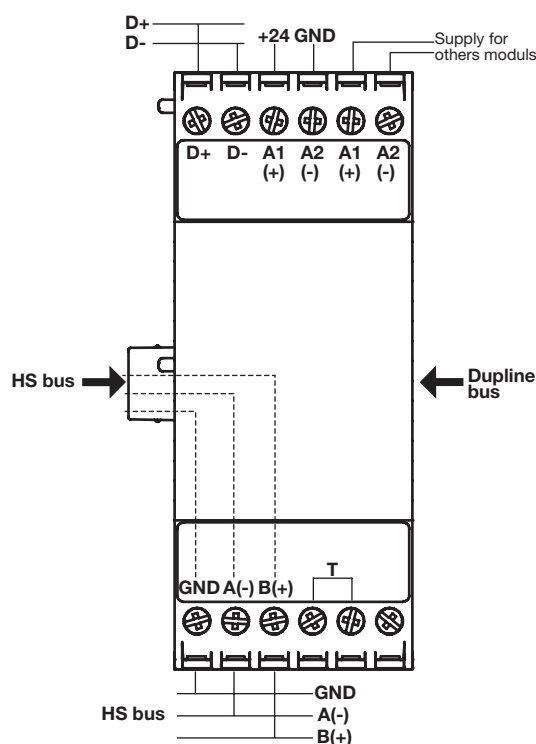


Fig. 1 Wiring diagram

**Note:** Terminals T, these two terminals must be short-circuited in the last module of the network.