

# Dupline® Hi-Line Booster Module for Valve Control Type GH34850000



- Generates 28 V Hi-Line signal
- Supplies and controls up to 64 valve I/O modules over two wires
- Up to 7 km transmission distance
- Built-in Gas-arrestor for lightning protection
- H4 housing
- LED-indications for Dupline carrier, Hi-Line carrier and supply
- DC power supplied

## Product Description

GH34850000724 is a converter module for the Dupline® irrigation control concept. It converts a standard Dupline® signal to a 28V "Hi-Line" signal, which can be used to supply and control up to 64 Valve I/O

modules. GH34850000724 can be used with any type of Dupline® channel generator, including Modbus interfaces and dedicated interfaces for most PLC brands. The two-wire Hi-Line cable can be up to 7 km long.

## Ordering Key

**GH34850000724**

Type: Dupline® \_\_\_\_\_  
H4-Housing \_\_\_\_\_  
DC supply \_\_\_\_\_

## Type Selection

Supply type	Ordering no.
20-30 VDC	GH34850000724

## Input/Output Specifications

<b>Inputs</b> Terminals 24(+) & 25(-) Current consumption Max. distance between channel generator and GH34850000	Dupline® Bus 2 mA  50 m
<b>Outputs</b> Terminals 27(+) & 28(-) Short-circuit protection Overload protection Max. bus load	Hi-Line Bus Yes Yes 64 Valve modules (GH64404412 or GH34404412)

## Supply Specifications

<b>Supply</b>	Supply must be galvanically isolated from mains and PE, and only connected to the Dupline® channel generator and the Dupline® booster module.
<b>Rated operational voltage</b>	through term. 21(+) & 22(-) 20 to 30 VDC (ripple included)
<b>Ripple</b>	≤ 3 V
<b>Reverse polarity protection</b>	Yes
<b>Rated operational current</b>	≤ 300 mA
<b>Transient protection voltage</b>	800 V
<b>Dielectric voltage</b> Supply – Dupline® Supply - Hi-Line	None None

## General Specifications

<b>Power ON delay</b>	max. 120 sec. (with 64 modules connected)
<b>Indication for</b> Dupline® carrier in Hi-Line carrier out Supply	LED, yellow LED, yellow LED, green
<b>Environment</b> Degree of protection Pollution degree Operating temperature Storage temperature	IP20 B 3 (IEC 60664) 0° to +50°C (+32° to +122°F) -20° to +85°C (-4° to +185°F)
<b>Humidity (non-condensing)</b>	20 to 80%
<b>Dimensions</b>	H4- housing
<b>Material</b>	Noryl SE1, Grey
<b>Mechanical resistance</b> Shock Vibration	15 G (11 ms) 2 G (6 to 55 Hz)
<b>Weight</b>	200 g

## Mode of Operation

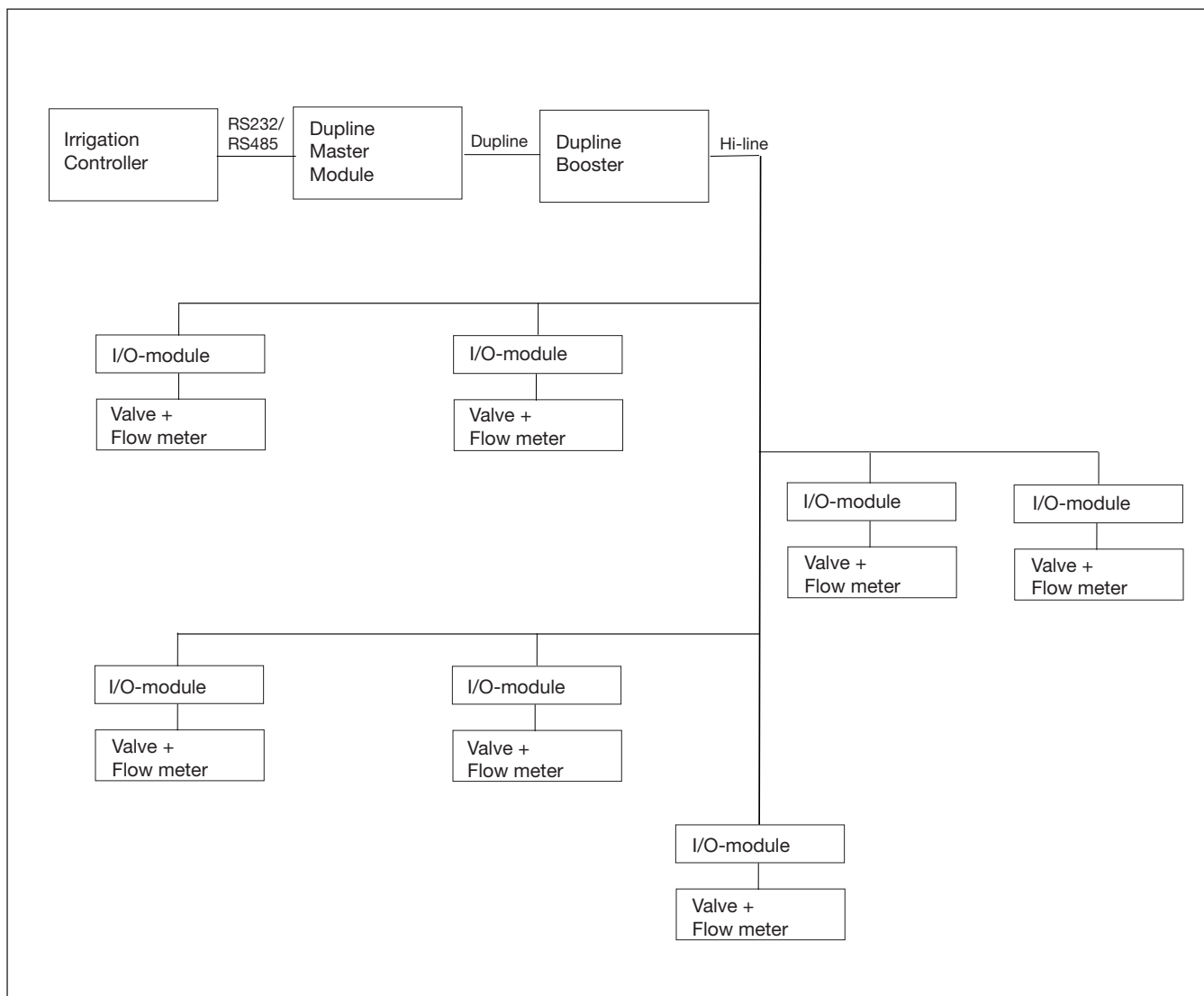
The purpose of the Dupline Irrigation Bus System is to reduce the cost of the wiring in irrigation systems. By connecting the Irrigation Controller with all the valves in the field via a 2-wire bus, a much simpler and more flexible solution is achieved compared to the traditional multi-core cable with a hot-wire for each valve. The bus system

enables the Irrigation Controller to control each individual valve (open/closed) and it also carries the power required to operate the valves, which must be 3-wire 12 VDC latching types. It is also possible to send information from the field to the Irrigation Controller, e.g. pulses from a flow meter. Each valve must be connected to a

bus I/O-module with 2 digital outputs (open, close) and 2 digital inputs. The interface between the Irrigation Controller and the Dupline Master Module is achieved via serial communication (RS232 or RS485) between the two devices.

The GH34850000724 booster module increases the voltage

level of the standard Dupline signal to 28 VDC in order to achieve sufficient voltage level to operate the valves. The diagram below shows the topology of the system.



## System Characteristics

### Cable requirements

Min. cable cross-section  
1.5 mm<sup>2</sup>  
Shield not required  
Twist not required  
Free topology

There must be min. 10 s between two valve operations on the line.

The table below shows the max. number of valves on one line as a function of distance and cross-section of the cable. The "shaded" cells are always valid. The unshaded cells are based on a uniform distribution of the valves and are hence valid

when the **average** distance between the valves and the Hi-Line Booster is below 0.75 of the distance between the Hi-line Booster and the farthest valve.

### Distance and number of valves

Max. 64 valves on one line (128 outputs, 128 inputs)  
Up to 7 km communication distance

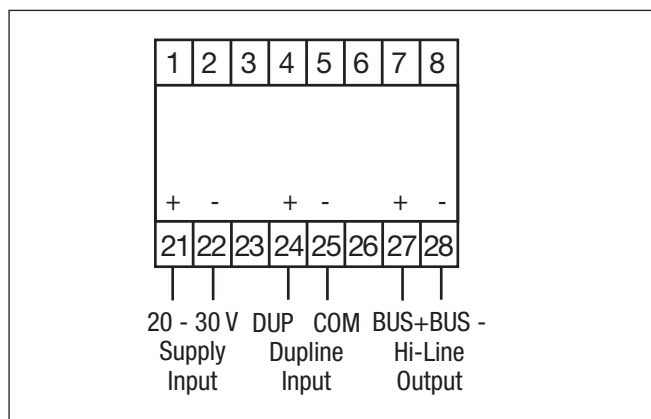
### 12 VDC latching valve

	1 km	2 km	3 km	4 km	5 km	6 km	7 km
1.5 sq.mm	64	64	64	64	64	54	44
2.5 sq.mm	64	64	64	64	64	64	64

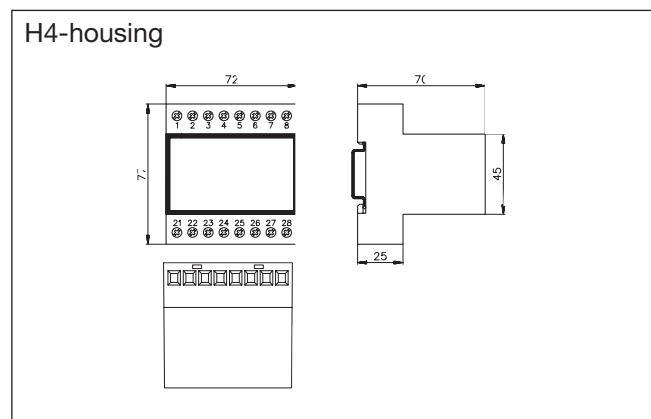
### Loss of bus signal

If the valve I/O-module loses the bus signal, it will automatically close the valve.

## Wiring Diagram



## Dimensions (mm)



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