

Dupline® Plug & Play Master Module Interface for Lucky Goldstar PLC Type G 3496 0001



- Lucky Goldstar master
- Plug and play: Automatic communication with specific PLC/Controllers
- Built-in normal Dupline® Channel Generator
- 128 I/O's and DC power supply on 3 wires
- RS232/RS422/RS485 port for interfacing to control system
- Split-I/O mode selectable (128 inputs and 128 outputs)
- LED-indications for supply, Dupline® carrier and Com-port Tx
- Galvanically isolated Com-port supplied by internal DC/DC converter

Product Description

G 3496 0001 is designed as a cost-effective Plug & Play solution for interfacing Dupline® I/O's to a Lucky Goldstar PLC. It performs three functions: Dupline®

channel generator, power supply synchronization (enables 3-wire system with supply) and RS232/RS422/RS485 interface.

Ordering Key

G 3496 0001 700

Type: Dupline®
H4-Housing
Combined module
Interface type
DC supply

Type Selection

Supply

20-30 VDC

PLC Interface type

Lucky Goldstar K-series

Ordering no.

G 3496 0001 700

Input/Output Specifications

Power output

Output voltage 20-30 VDC (pulsating)
Output current < 3.0 A @ 50°C
Short circuit protection 4 A quick acting fuse
Output voltage drop < 1.0 V

Dupline® carrier

Output voltage 8.2 V (pulsating)
Current < 60 mA
Short circuit protection Yes
Scan time
128 channels 132.2 ms
64 channels 69.8 ms

Communication port

Standard RS232/RS422/RS485
Split I/O mode Yes, selectable
Normal Dupline mode Yes, selectable
Connection 9 pole female Sub-D
Dielectric voltage 1 kVAC (rms)
Com-port Dupline® LG Serial Communication
Protocol Standard
Baud rate 19200
Data bits 8
Start bit 1
Stop bit 1
Parity None
Flow-control None

Input/Output Specifications (Cont.)

Pin assignment

2-wire RS 485
S/R Data line + (B)
S/R Data line - (A)
GND

4-wire RS 485/RS 422
R Data line + (B)
R Data line - (A)
S Data line + (B)
S Data line - (A)

Direction

RS 232
TX
RX
GND

Pin 3
Pin 8
Pin 5

Pin 3
Pin 8
Pin 2
Pin 7
Pin 4

(Connect to GND pin 5 when using 4-wire communication)

Pin 1
Pin 9
Pin 5

Supply Specifications

Power supply

Operational voltage (V_{in})
Reverse polarity protection
Current consumption
Power dissipation
Transient protection voltage
Dielectric voltage
Supply - Dupline®
Supply - com-port

Overvoltage cat. III (IEC 60664)
20-30 VDC
None
< 150 mA + Power load
< 5 W
800 V
None
1 kVAC (rms)

General Specifications

Power ON delay	2 s	Humidity (non-condensing)	20 to 80%
Indication for Com-port Tx Supply ON Dupline® carrier	LED, red LED, green LED, yellow	Mechanical resistance Shock Vibration	15 G (11 ms) 2 G (6 to 55 Hz)
Environment Pollution degree Operating temperature Storage temperature	3 (IEC 60664) 0° to +50°C (+32° to +122°F) -50° to +85°C (-58° to +185°F)	Dimensions Material Weight	H4-Housing (see Technical information) 100 g

Mode of Operation

The Dupline® Master Module (DMM) controls a 3-wire bus with signal, DC-power and common GND. The DMM is connected to a standard DC-supply, which it synchronizes with the Dupline® carrier signal before it is output to supply. The synchronization is necessary in order to enable the Dupline® and DC-supply to share the GND-wire.

The Dupline® Master Module is a Dupline® Channel Generator with the function of a master.

This means that the 128 Dupline® I/O's will be read/written by the DMM and then sent to the PLC.

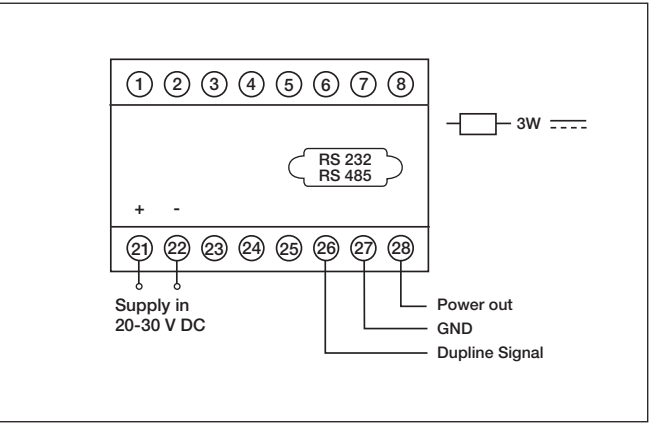
The DMM can run in two different modes – Normal mode and split I/O mode. In Normal mode, Dupline® operates as a peer-to-peer system, where the channel generator automatically establishes a connection between Dupline® inputs and Dupline® outputs which are coded to the same Dupline® address. If e.g. an

input coded for B5 is activated, the output(s) coded for B5 will also be activated.

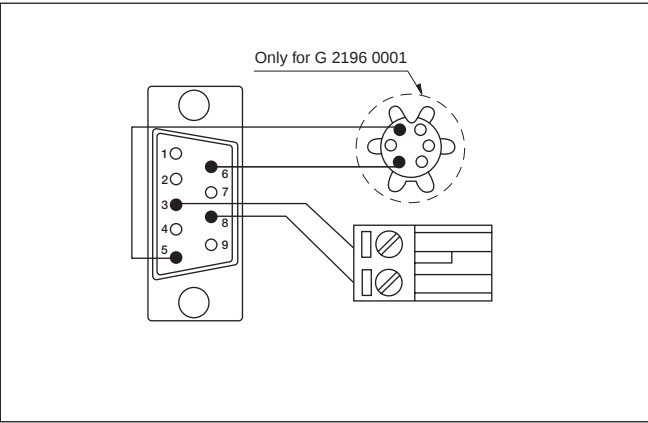
Consequently, a Dupline®-output can either be activated through the output-data received on DMM or by an active Dupline® input coded for the same Dupline®-address. In “Split I/O” mode, the channel generator treats the Dupline® inputs and Dupline® outputs independently. If e.g. an input coded for B5 is activated, the DMM

will make the information available for the PLC (like in normal mode), but it will not automatically activate the Dupline® output(s) coded to B5. The Dupline® outputs are controlled exclusively through the output data received from the PLC. In this mode, up to 128 Dupline® inputs and 128 Dupline® outputs are available, since an input and an output coded to the same Dupline® address can operate independently.

Wiring Diagram



Pin Assignment



Dip-Switch Setting

Sw.4	On:	Split I/O Channel Generator Mode (See “Mode of Operation”)
	Off:	Normal Dupline® Monostable Channel Generator Mode
Sw.5	On:	64 Dupline® channels
	Off:	128 Dupline® channels

Installation Hints

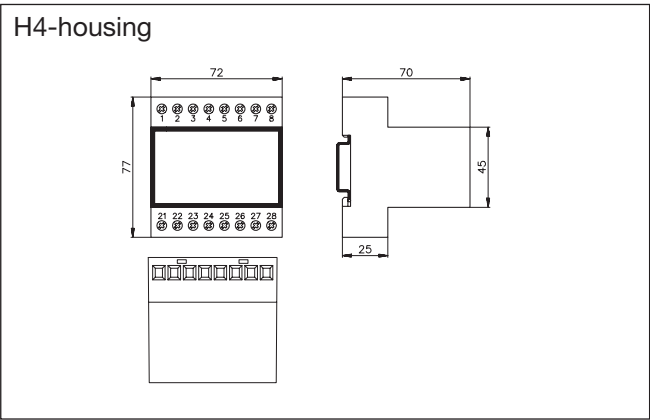
No TX-LED	
Hardware fault	Check the wiring.
No Dupline® Carrier-LED	
Short circuit	Short circuit between the two Dupline® wires.

Memory Mapping

Table of the memory mapping

Dupline® Channel	Lucky Goldstar		Dupline® Channel	Lucky Goldstar	
	Read	Write		Read	Write
A1	M000	M080	E1	M020	M100
A2	M001	M081	F1	M028	M108
A3	M002	M082	G1	M030	M110
A4	M003	M083	H1	M038	M118
A5	M004	M084	I1	M040	M120
A6	M005	M085	J1	M048	M128
A7	M006	M086	K1	M050	M130
A8	M007	M087	L1	M058	M138
B1	M008	M088	M1	M060	M140
B8	M00F	M08F	N1	M068	M148
C1	M010	M090	O1	M070	M150
D1	M018	M098	P1	M078	M158

Dimensions (mm)



Additional Information

Scope of supply

1 x Master Module

G3496 0001 700

Accessories

Cable for Communication port

RS485-CAB