Dupline® Plug & Play Master Module Interface for Matsushita Type G 3496 0009

- **Interface for Matsushita PLC with the function of a 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**
- **Galvanic isolated Com-port supplied by internal DC/DC converter**

Product Description

G 3496 0009 is designed as a cost-effective solution for interfacing Dupline® I/O's to the Matsushita FP PLC family. 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 0009 700

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

Type Selection

Supply	PLC Interface Conformance	Ordering no.
20-30 VDC	Matsushita FP series using Mewtocol protocol	**G 3496 0009 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
Connection	9 pole female Sub-D
Split I/O mode	Yes, selectable
Normal Dupline® mode	Yes, selectable
Dielectric voltage	
Com-port - Dupline®	1 kVAC (rms)
Protocol	Mewtocol
Channel Configuration in PLC	
Baud rate	9600/19200
Data bits	8
Start bit	1
Stop bit	1
Parity	Odd
Flow-control	None

Input/Output Specifications (Cont.)

Pin assignment	
2-wire RS485	
S/R Data line + (B)	3
S/R Data line – (A)	8
GND	5
4-wire RS485/RS422	
R Data line + (B)	3
R Data line - (A)	8
S Data line + (B)	2
S Data line - (A)	7
Direction	4 (Connect pin 5 to GND when using 4-wire com.)
RS232	
TX	1
RX	9
GND	5

Supply Specifications

Power supply	Overvoltage cat. III (IEC 60664)
Operational voltage (V_{in})	20-30 VDC
Reverse polarity protection	None
Current consumption	< 150 mA + Power load
Power dissipation	< 5 W
Transient protection voltage	800 V
Dielectric voltage	
Supply – Dupline®	None
Supply – Com-port	1 kVAC (rms)

Dupline®
Fieldbus Installationbus

General Specifications

Power ON delay	2 s
Indication for	
Com-port TX	LED, red
Supply ON	LED, green
Dupline® carrier	LED, yellow
Environment	
Pollution degree	2 (IEC 60664)
Operating temperature	0° to +50°C (+32° 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	H4-Housing
Material	(See Technical Information)
Weight	100 g

Mode of Operation

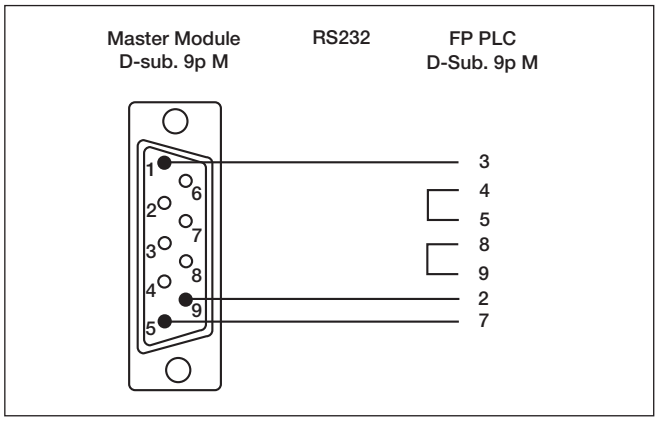
The Dupline® Master Module (DMM) controls a 3-wire bus with signal, DC-power and common GND. The DMM is connected to a standard DC-supply, which it synchronizes with the Dupline® carrier signal before it is outputted to supply. The synchronization is necessary in order to enable the Dupline® and DC-supply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

Pin Assignment



Memory Mapping

Table of the memory mapping to the PLC

Dupline® Channel	PLC Read	PLC Write	Dupline® Channel	PLC Read	PLC Write
A1	R00	R80	E1	R20	R100
A2	R01	R81	F1	R28	R108
A3	R02	R82	G1	R30	R110
A4	R03	R83	H1	R38	R118
A5	R04	R84	I1	R40	R120
A6	R05	R85	J1	R48	R128
A7	R06	R86	K1	R50	R130
A8	R07	R87	L1	R58	R138
B1	R08	R88	M1	R60	R140
B8	R0F	R8F	N1	R68	R148
C1	R10	R90	O1	R70	R150
D1	R18	R98	P1	R78	R158

Dip-Switch Setting

Sw.3	**On:**	19200 baud
	Off:	9600 baud
Sw.4	**On:**	Split I/O Channel Generator Mode (Receivers activated by the PLC)
	Off:	Normal Dupline® Monostable Channel Generator Mode
Sw.5	**On:**	64 Dupline® channels
	Off:	128 Dupline® channels Address R7.F (P8) = High: Dupline® error (e.g. short-circuit)

Installation Hints

TX-LED

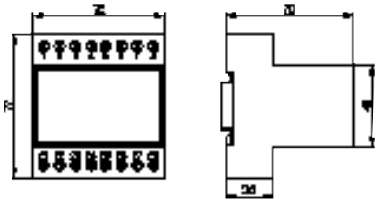
Slow flashing	No communication Check the wiring.
Fast flashing	Communication OK.

No Dupline® Carrier-LED

Dupline® Short curcuit	Short curcuit between the two Dupline® wires.

Dimensions (mm)

H4-housing



Additional Information

Scope of supply
1 x Master Module G3496 0009 700

Accessories

Cable Sub-D 9M/Sub-D 9M RS-232-MA1