

## Global Network Services



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## Matsushita Electric Works

Please contact our Global Sales Companies in:



Europe		
▶ Europe	<b>Matsushita Electric Works (Europe) AG</b>	Rudolf-Diesel-Ring 2, D-83607 Holzkirchen, Tel. (08024) 648-0, Fax (08024) 648-555, www.mew-europe.com
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▶ Ireland	<b>Matsushita Electric Works UK Ltd.</b>	Irish Branch Office, Waverley, Old Naas Road, Bluebell, Dublin 12, Republic of Ireland, Tel: (01) 4600969, Fax: (01) 4601131, www.matsushita.ie
▶ Italy	<b>Matsushita Electric Works Italia s.r.l.</b>	Via del Commercio 3-5 (Z.I. Ferlina), I-37012 Bussolengo (VR), Tel. (045) 6752711, Fax (045) 6700444, www.matsushita.it
▶ Portugal	<b>Matsushita Electric Works España S.A.</b>	Portuguese Branch Office, Avda 25 de Abril, Edifício Alvorada 5ºE, 2750-512 Cascais, Portugal, Tel. (21) 4828266, Fax (21) 4827421
▶ Scandinavia	<b>Matsushita Electric Works Scandinavia AB</b>	Sjöängsvägen 10, 19272 Sollentuna, Sweden, Tel. (08) 59476680, Fax (08) 59476690, www.matsushita.se
▶ Spain	<b>Matsushita Electric Works España S.A.</b>	Barajas Park, San Severo 20, E-28042 Madrid, Tel. (91) 3293875, Fax (91) 3292976
▶ Switzerland	<b>Matsushita Electric Works Schweiz AG</b>	Grundstrasse 8, CH-6343 Rotkreuz, Tel. (041) 7997050, Fax (041) 7997055, www.matsushita.ch
▶ United Kingdom	<b>Matsushita Electric Works UK Ltd.</b>	Sunrise Parkway, Linford Wood East, Milton Keynes, MK14 6LF, England, Tel. (01908) 231555, Fax (01908) 231599, www.matsushita.co.uk

North & South America		
▶ USA	<b>Aromat Corporation Head Office USA</b>	629 Central Avenue, New Providence, N.J. 07974, Tel. 1-908-464-3550, Fax 1-908-464-8513, www.aromat.com

Asia		
▶ China	<b>Matsushita Electric Works Ltd. China Office</b>	2013, Beijing Fortune, Building No. 5, Dong San Huan Bei Lu, Chaoyang District, Beijing, Tel. 86-10-6590-8646, Fax 86-10-6590-8647
▶ Hong Kong	<b>Matsushita Electric Works Ltd. Hong Kong</b>	Rm1601, 16/F, Tower 2, The Gateway, 25 Canton Road, Tsimshatsui, Kowloon, Hong Kong, Tel. (852) 2956-3118, Fax (852) 2956-0398
▶ Japan	<b>Matsushita Electric Works Ltd. Automation Controls Group</b>	1048 Kadoma, Kadoma-shi, Osaka 571-8686, Japan, Tel. 06-6908-1050, Fax 06-6908-5781, www.mew.co.jp/e-acg/
▶ Singapore	<b>Matsushita Electric Works Pte. Ltd. (Asia Pacific)</b>	101 Thompson Road, #25-03/05, United Square, Singapore 307591, Tel. (65) 255-5473, Fax (65) 253-5689

**Panasonic**  
ideas for life



Matsushita

Telecontrol with

FP-Series PLCs

**TCL Compact**  
Telecontrol based on the FP Series

# TELECONTROL

## TELECONTROL

Telecontrol is the networking of different stations that communicate with one another. There is usually a main station that exchanges information with other stations via public or private communication networks.

Matsushita provides PLCs, modems and pre-programmed function blocks (libraries) for every application here. So stations are not only controlled by PLCs, information is also exchanged automatically with the main station.

### The advantages of Matsushita telecontrol engineering:

- Long approach paths/ service costs no longer apply
- No need for extravagant wiring over long distances
- No more continuous main station interrogation intervals:
  - lower connection costs
  - faster fault elimination
- You can use any Matsushita PLC. Even the smallest one can dispatch messages independently
- Uniform PLC series with identical instruction sets and the same programming software in accordance with IEC 61131-3
- Large selection of pre-programmed function blocks available, saves programming time and does away with the need for detailed technical knowledge.

## TELECONTROL FUNCTIONS

### ALARM SIGNALS

A PLC of the FP series monitors a system. If the status of an alarm output in the system changes, an indication of the type of fault is sent to the main station, a radio receiver or a fax machine.

### RECEIVING SYSTEM DATA

System data is collected in the PLC and signaled to the main station. System data can include, meter readings or measured values such as operating hours, consumption values, temperatures, etc.

### TRANSMITTING SWITCHING COMMANDS

From a main station, switching commands can be sent to an outstation on site. These commands then, for example, open doors or switch a system on or off.

### TRANSMITTING SYSTEM DATA

System data is sent from the main station to the outstation. This is then processed in the PLC. Examples include set temperatures or slide settings.

### DATA ARCHIVING

System data is collected by the PLC and forwarded to archiving devices such as a PC, a printer or a fax.

### REMOTE PROGRAMMING

Program enhancements or changes in the outstation PLC can be made from the main station. PLC programs can be checked.

## Telecontrol with Matsushita PLC



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**POWER GENERATION & DISTRIBUTION**

- Remote control
- Life checks
- Data logging
- Energy optimization
- Emission measuring
- Routine checks, etc.



**BUILDING TECHNOLOGY**

- Status control (e.g. light, elevator)
- Fire and water damage
- Door and gate control
- Air conditioning, lighting
- Monitoring, etc.



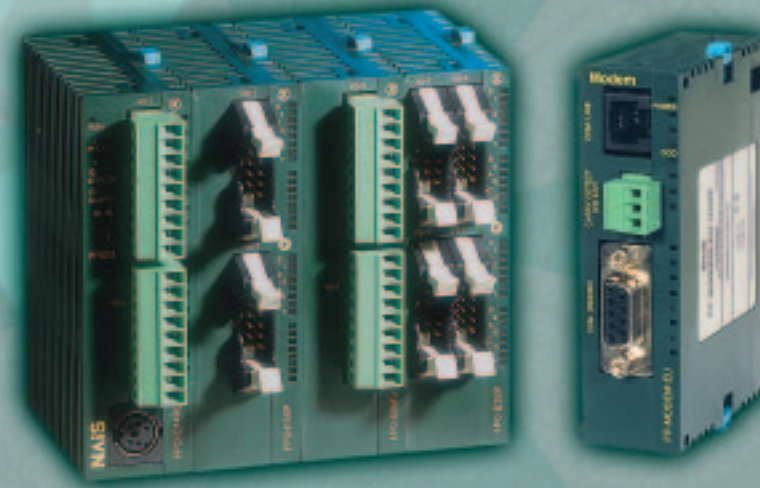
**WATER AND WASTE WATER**

- Remote control (e.g. pumps, gates)
- Measuring (levels, flows, temperature)
- pH metering
- Alarm messaging, etc.



**FACTORY AUTOMATION**

- Remote control
- Alarm & trouble messaging
- Supply chain management
- Commissioning
- Maintenance



**FP-MODEM-EU**

**TRANSPORT & TRAFFIC TECHNOLOGY**

- Traffic guidance systems
- Car park routing
- Road lighting
- Lock control (navigation)
- Fleet management, etc.



**AGRICULTURE & FOOD**

- Farm supervision
- Auto feeding
- Crop optimization
- Plantation irrigation
- Alarm messaging, etc.



**ENVIRONMENTAL TECHNOLOGY**

- Emission monitoring
- Immission monitoring
- Rain & wind metering
- Filter maintenance, etc.



**SAFETY & SECURITY SYSTEMS**

- Gate control
- Access control
- Anti-theft alarm system
- Emergency lighting, etc.

FP-MODEM-EU

**FP-MODEM-EU**

Matsushita PLCs of types FP0, FP1, FP-M and FP2, FP2SH and FP10SH with a second RS232C interface (COM port) become a tele-control station when the FP MODEM EU modem is used. This industrial quality analog modem, the size of a cigarette packet, is suitable for a great many communication, monitoring and control tasks with numerous professional functionalities:

① **Service made simple**

- Adapted to the PLCs of the FP series
- Status LEDs
- Manuals
- Software libraries

② **Easy installation and wiring**

- DIN rail or direct mounting
- 24 V DC power supply
- SUB-D9 connector
- Telecom cable RJ12 to RJ12

③ **Flexibility**

- 3 types of connection with one module dial-up connection, dedicated line or multidrop
- European TBR21 and TBR15 approval
  - TBR21 is the European standard for dial-up connections, which has only recently come into being. This is the first time that it has been possible to work throughout Europe with one standard.
  - TBR15 is the European standard for modem applications, using a dedicated line from a public provider



**Austria**

**Belgium**

**Denmark**

**Finland**

**France**

**Germany**

**Greece**

**Iceland**

**Ireland**

**Sweden**

**Spain**

**Netherlands**

**Portugal**

**Luxembourg**

**Great Britain**

**Switzerland**

**Italy**

**Norway**

- **DEDICATED LINE**
- **DIAL-UP CONNECTION**
- **MULTIDROP**

**MODEM LIBRARY**

Matsushita's modem libraries have most advantages. Because the function blocks are reusable, thanks to our IEC 61131-3 programming software, you save time when creating complicated programs. Not only that, but no expert telecommunications knowledge is required.

Matsushita modem library:

- pre-programmed software blocks for incorporation in the PLC program
- no programming knowledge required
- no detailed knowledge of communications required
- the right block for every application



The modem library contains various function blocks for dial-up connection, dedicated line and multidrop connections. Options, whether with or without a password, ASCII or MEWTOCOLL protocol, fax mode and much more, are available.

**GSM LIBRARY**

Matsushita's GSM user library\* is primarily intended for economical data transmission via SMS messages, but it is also designed for setting up and clearing a GSM connection between the outstations and the main station. The data to be sent can comprise messages, meter values, measured values, commands or set values.

The function blocks from the GSM user library make it easier to program telecommunications applications:

- Function block M\_CG\_ini*: – modem initialization, by sending a PIN
- Function block CG\_Connect* – automatic setting up and clearing of a connection to a distant station
- Function block M\_CG\_Ring* – Calls a mobile or a landline phone and originates device ringing
- Function block M\_CG\_slave* – Logging on in a network
- Function block M\_CG\_SMS\_send* – Sending text-messages to a mobile phone by means of GSM
- Function block CG\_SMS\_receive* – Receiving text messages (SMS) from mobile phones

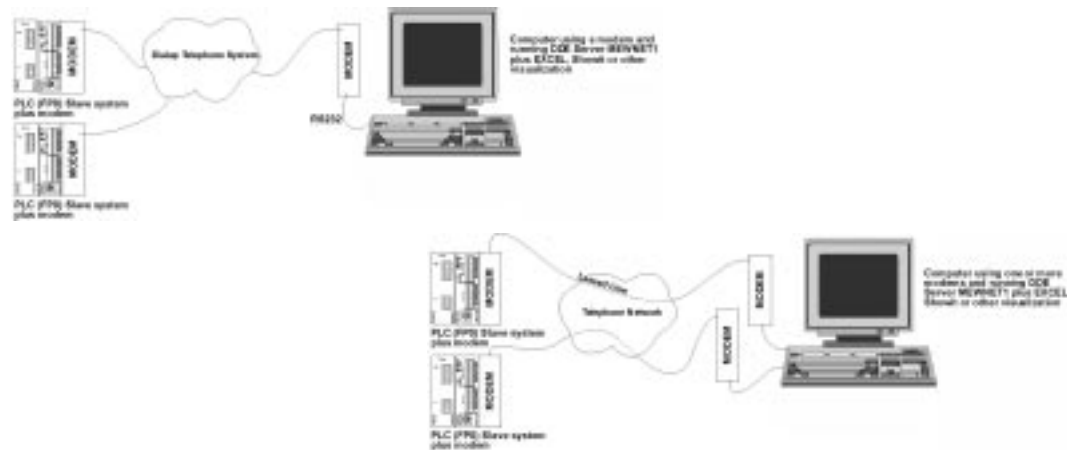
\* for Siemens M20 Ver. 2.3 or Wavecom WMOD2B as option.

LIBRARIES

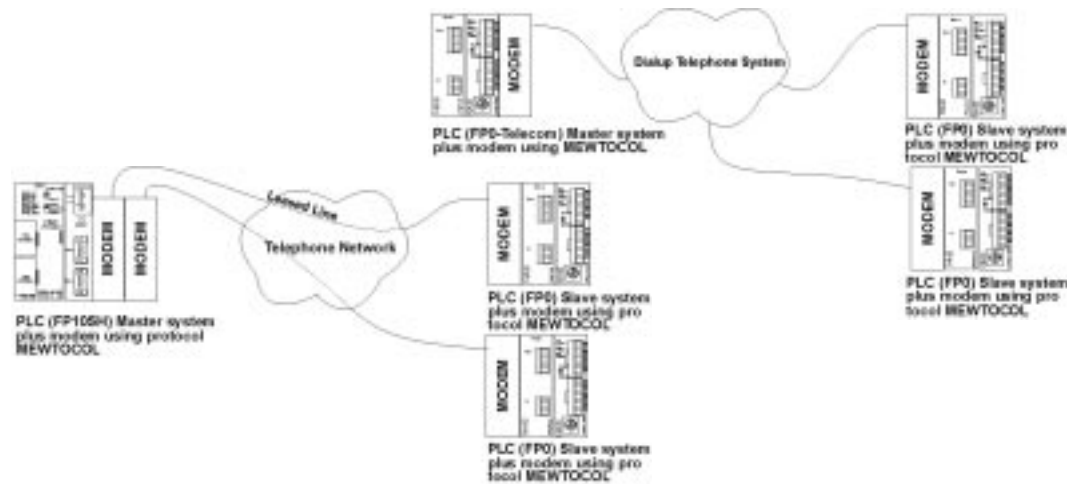
FP-MODEM-EU

SPECS/ORDER

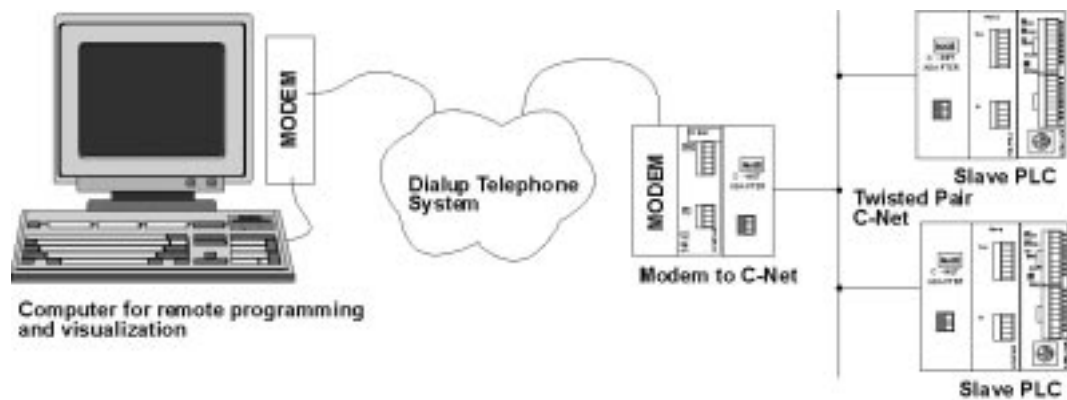
**PC AS MASTER STATION**



**PLC AS MASTER STATION**



**COMBINATIONS**



**TECHNICAL SPECIFICATIONS**

Transmission standards	V.32bis, V.32, V.22bis, V.23, V.21, V.17, V.27ter, V.29
Transmission rate	14400 bits/s (up to 57600 bits/s with V.32bis and V.42bis compression)
Transmission type	asynchronous
Connection types	dial-up connection, dedicated line, multidrop
Dialing method	pulse or tone dialing
Error connection	V.42, LAPM, MNP4
Data compression	MNP5, V.42bis
Call control	Enhanced AT instruction set
Access protection	Password with automatic call-back
Status indicator	LED (Power/Test), LED (DCD)
Serial interface	RS232C
Carrier detect	24VDC, PLC input
Operating voltage	24 V DC
Current consumption	120 mA
Operating temperature	0°C to +55°C
Storage temperature	-20°C to +70°C
Weight	approx. 100g
Dimensions in mm	25x90x60 (WxHxD)

**DESCRIPTION**

**ORDER-NO.:**

<b>MODEM</b>	
FP Modem-EU Unit	FPMODEMEU
<b>NAIS Control Library "Modem"</b>	NCL-CMEU-LIB
FP Modem-EU RS232 Cable for FP0 COM Port	CABMODPLC111
FP Modem-EU RS232 Cable for FP1/FP-M/FP2/FP10SH COM Port	CABMODPLC211
FP Modem-EU Hardware Manual	ACGM0138V10EN
PLC-Modem Communication Manual	ACGM0136V20EN
<b>GSM</b>	
<b>NAIS Control Library "GSM"</b>	NCL-CG-LIB
PLC-GSM Communication Manual	ACGM0137EN

FP-CONTROLLERS

**FP-SERIES**

All Matsushita PLCs with a second serial interface (COM port) are suitable for use as telecontrol stations. If several networks are to be set up, the communication modules (S.D.U.) of the FP2 or FP10SH PLCs with two interfaces can be used. Practically any configuration is possible here.

**FP10SH**

The strength of the FP10SH lies in the high processing speed of 0.04  $\mu$ s as well as in the comprehensive program of special modules and expansion modules. The program memory of the FP10SH CPU can be expanded to 120k. As well as a 43k data memory, you can also plug in a 1 MB IC card.

**FP2SH**

Three different CPU modules with a processing speed of 0.03  $\mu$ s (basic command) have a 60k or 120k program memory as standard. Additional plug-in IC cards can expand the memory by 2MB.

**FP2**

With two RS232C interfaces provided as standard, the FP2 can already communicate with modems, control units, barcode readers, etc. Four different CPUs with different function ranges provide the right solution to every application. Up to 32k of program memory and max. 36k of data memory are available.

**FP-M**

The FP-M board control offers vertical, space-saving expansion with up to 192 inputs and outputs. With a 5k program memory, 6k data memory and numerous useful functions such as a rapid counter, pulse output, analog value recording, password function, etc., as standard, it easily covers a multitude of application cases.

**FP0**

The FP0 is only 25x90x60mm (WxHxD) in size, making applications possible in even the smallest of spaces. It has up to 10k of memory for programs and up to 16k for data.

