MITSUBISHI

2001 No.155E

NEW PRODUCT RELEASE

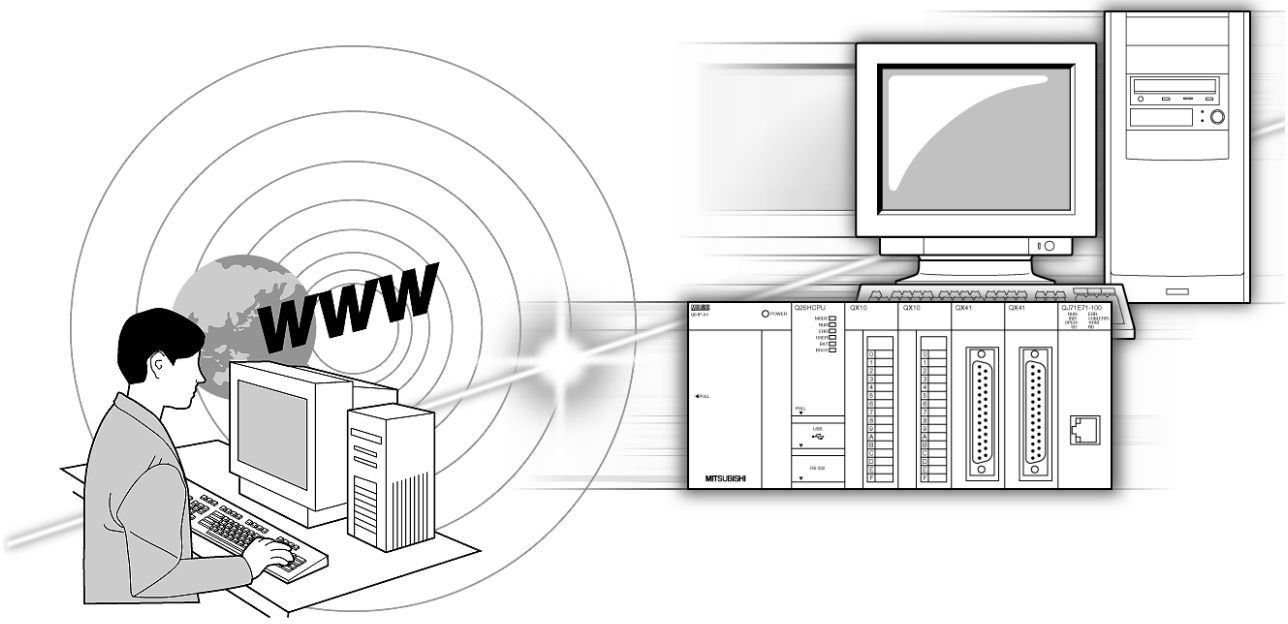
Mitsubishi PLC

Release Announcement of the New Model QJ71E71-100 Ethernet Interface Module

New!

An Ethernet interface module compatible with 100BASE-TX is now available!

The Q Series Ethernet interface module is improved in ease of use with new functions for high-speed communication and expansion of the applications.



The following functions are added to the new model, QJ71E71-100.

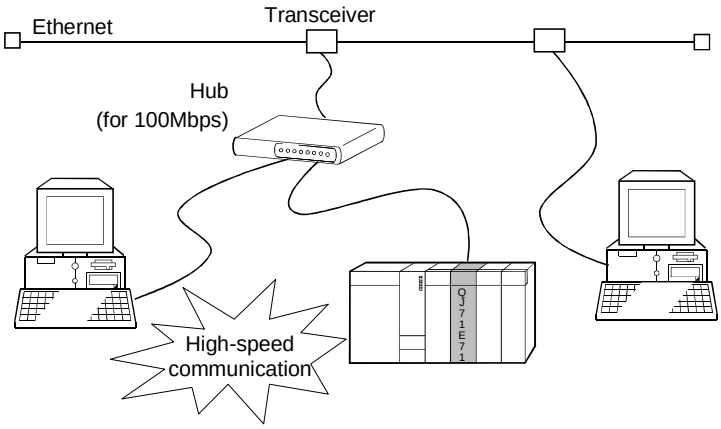
- High-speed communication at 100 Mbps using 100BASE-TX
- A Web function that enables access to the Q Series CPU via the Internet
- Transmission in the body of e-mail

[New Features]

(1) High-speed communication at 100 Mbps using 100BASE-TX

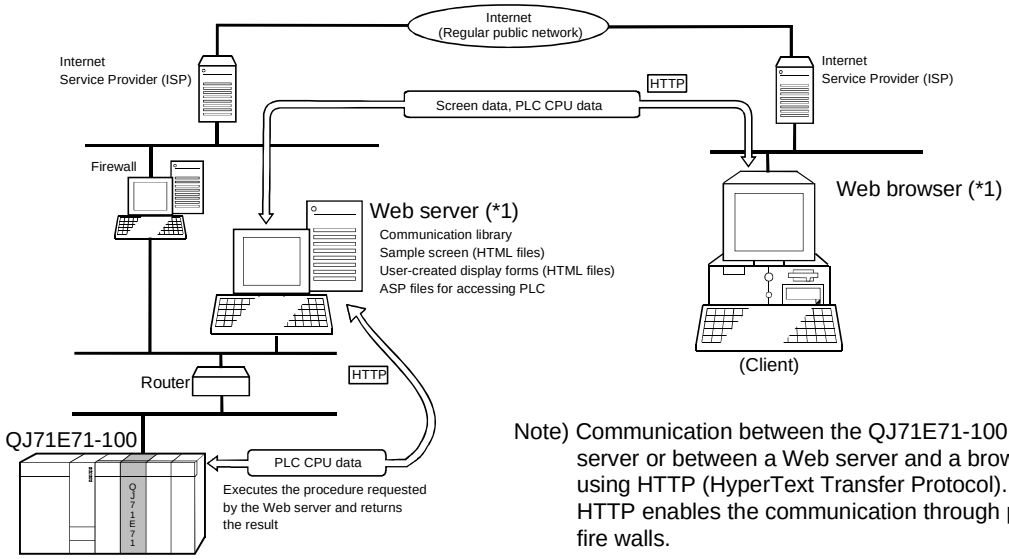
The 100 Mbps hub (such as a switching hub) can reduce the load on the Ethernet line, improving the response performance between the QJ71E71-100 and the hub.

QJ71E71-100 module responses one and half times faster than QJ71E71 and QJ71E71-B2 when Network communicates with the fixed buffers.



(2) Access to the Q Series CPU via Internet using WEB function

- In order to maintain and monitor remote PLC equipment via the Internet, the system administrator can collect/update PLC data or control Q Series CPU status using general Web browsers. (The clients do not need special software such as GX Developer.)
- The user can easily create programs (ASP files) to access the Q Series CPU or design display forms for Web browsers (HTML files) to show the results of access to the Q Series CPU. (ASP: Active Server Pages; HTML: HyperText Markup Language)



Note) Communication between the QJ71E71-100 and a Web server or between a Web server and a browser is performed using HTTP (HyperText Transfer Protocol).
HTTP enables the communication through proxy servers and fire walls.

*1 The following table shows the specifications of web servers and browsers required for Web function. (The operations have been confirmed by Mitsubishi.)

(a) Web Server (Computer on which the Web server software operates)

Web server operating environment	
Applicable Web server software	Compatible basic software (OS)
Internet Information Server 5.0	Microsoft® Windows® 2000 Server Operating System
	Microsoft® Windows® 2000 Professional Operating System
Internet Information Server 4.0	Microsoft® Windows NT® Server 4.0 Operating System
Personal Web Server 4.0	Microsoft® Windows NT® Workstation 4.0 Operating System
	Microsoft® Windows® 98 Operating System

* It is necessary to setup communication libraries, HTML file display forms and ASP files for access to the PLC in the Web server before using the Web function.

* Please contact your local agency or sales company, for the purchase of communication library required for access to QJ71E71-100 module and samples (HTML file, ASP file) to confirm the functions to access to a PLC.

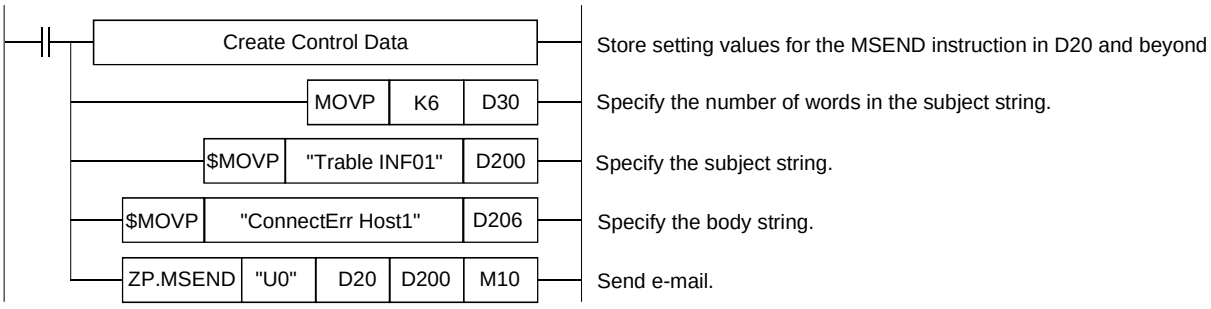
(b) Required Web Browser

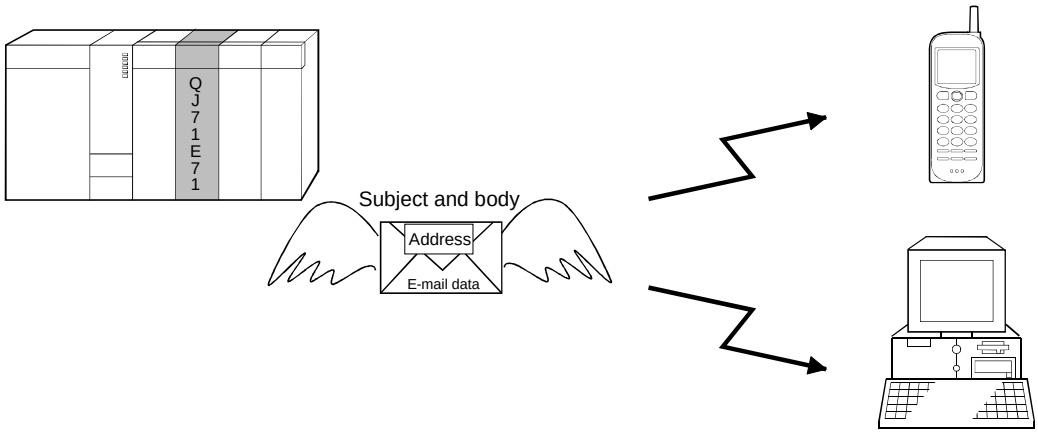
- Internet Explorer 4.0 or later (Microsoft®)
- Netscape® Communicator 4.05 or later (Netscape®)

(3) E-mail transmission

- The user can notify the system maintenance personnel of mechanical trouble through mobile phones, so that they can take prompt actions on the trouble. In addition, the user can exchange the information on device settings and the operation of the Q Series CPU or mechanical problems as e-mail data or attached files with PCs.
- Q Series CPU exchanges e-mail with target devices using special instructions (MSEND and MRECV).

(Example) Sending message in e-mail data by an MSEND instruction

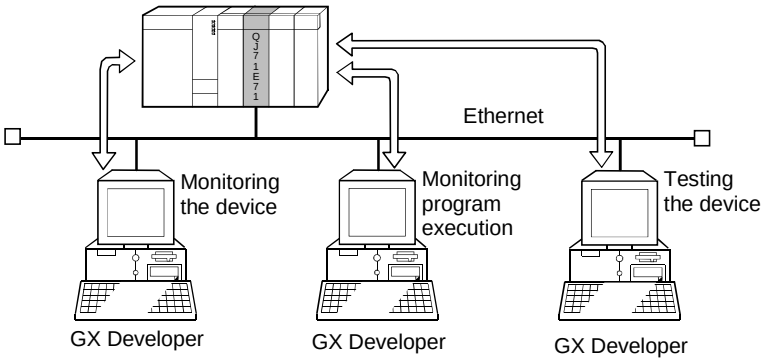




- "Automatic notification function" allows QJ71E71-100 module to monitor the Q Series CPU according to CPU parameter only and to notify the monitoring result as e-mail data or attached file when the notification condition realizes

(4) Connecting multiple MELSOFT products (GX Developer, GT SoftGOT),GOT

- QJ71E71 module performs simultaneous PLC access to each device, taking advantage of long-distance and high-speed communication (Ethernet communication), when you connect the module with multiple MELSOFT products and GOTs via Ethernet (direct connection).
- Multiple program developers can debug the Q Series CPU using GX Developers (a maximum of 17 units). (Debugging can also be performed through a reliable TCP/IP communication.)



[Function]

(1) Basic Functions of Ethernet Interface Modules (TCP/IP Communication and UDP/IP Communication)

Function		Description	QJ71E71-100	QJ71E71 QJ71E71-B2
Communication using the MC protocol	QnA compatible 3E frame	Reads/writes PLC CPU data from/to an external device.	○	○
	A compatible 1E frame			
Communication using fixed buffers	Procedure exist	Reads/writes any data between PLC CPU and an external device using fixed buffer of the Ethernet modules.	○	○
	No Procedure			
Communication using random access buffers		Reads/writes data from/to the random access buffers of the Ethernet modules of multiple external devices.	○	○
Sending/receiving by e-mail		Sends/receives data using e-mail. • Sends/receives data using a sequence program. • Sends information using the automatic notification function.	○	○
		Sends an attached file in CSV format.	○	○
		Sends e-mail body.	○	×
Communication using data link instructions		Reads/writes PLC CPU data of other stations via the Ethernet using data link instructions.	○	○
File transfer (FTP Server Function)		Reads/writes files using the FTP command on external devices.	○	○
Communication using Web function		Reads/writes PLC CPU data via the Internet using commercially available Web browsers.	○	×

(2) Additional Functions of Ethernet Interface Modules

Function	Description		QJ71E71-100	QJ71E71 QJ71E71-B2
MELSECNET/H, MELSECNET/10 relay communication	In a network system on which the Ethernet, MELSECNET/H and MELSECNET/10 exist or in a network system that relays multiple Ethernet nets, data is communicated via several such networks.		○	○
Router relay communication (Router relay function)	Communicates data via routers and gateways. (Ethernet interface module does not function as a router.)		○	○
External device existence confirmation	Checks whether or not the external device operates normally after communication has been established (open processing).		○	○
Paring open communication	Receiving connection and transmitting connection are opened as a single pair. (For fixed buffer communication.)		○	○
Communication using automatic open UDP port	Communication is enabled after starting up the station with the Ethernet interface module. (Opening and closing by a sequence program is unnecessary.)		○	○
Compatibility with QCPU remote password function	Prohibits remote users from performing illegal accesses to QCPU		○	○
	Remote password unlocking/locking	Communication using the MC protocol	○	○
		Communication using GX Developer	○	○
		Communication using the file transfer function	○	○
		Communication using the Web function	○	×
Simultaneous broadcast	Sends/receives data to/from all external devices in the same Ethernet as the Ethernet interface module, through the communication by UDP/IP.		○	○

(3) Status Check of the Ethernet Interface Module

Function	Description	QJ71E71-100	QJ71E71 QJ71E71-B2
Self refrain test	Checks the Ethernet interface module sending/receiving function and line connection status.	○	○
Hardware test	Tests the RAM and ROM of the Ethernet interface module.	○	○
Communication error storage	Stores the error information (error log), including message subheader, IP addresses of the external device, etc., for a maximum of 16 pairs in the buffer memory area, when a data communication error occurs.	○	○

(4) Others

	Description		QJ71E71-100	QJ71E71 QJ71E71-B2
Initial processing	Performs initial processing by setting GX Developer parameters.		○	○
Open processing	Performs open processing using sequence programs.		○	○
	Performs open processing by setting GX Developer parameters.		○	○
Compatibility with multiple PLC system	Installs an Ethernet interface module to multiple PLC system.		○	○
	Accessing non control PLC	Communication using the MC protocol	○	○
		Communication using GX Developer	○	○
		Communication using the file transfer function	○	×
Install an Ethernet interface module to MELSECNET/H remote I/O station.			○	○
Set parameters in the GX Developer to use Ethernet interface module functions.			○	○
Access QCPU through the Ethernet interface module (TCP/IP or UDP/IP).			○	○
Compatibility with the GX Developer Ethernet diagnostic function (GX Developer Version 6 or later)	Monitor various statuses of the Ethernet interface module.		○	○
	Through the Ethernet board	Diagnosis based on PING test	○	○
		Diagnosis based on loop back test	○	○
	Through the CPU	Diagnosis based on PING test	○	○
		Diagnosis based on loop back test	○	○
Communication using the IEEE802.3 frame			○	×
Connection of MELSOFT products (such as GX Developer)			○	○
	Simultaneous connection with multiple MELSOFT products using TCP/IP communication.		○	○

○ : Available × : Not available

Please refer to the Q corresponding Ethernet Interface module User's Manual (SH-080009-C), for the function versions and serial numbers of the products (CPU module and GX Developer) related with the above functions.

[Performance Specifications]

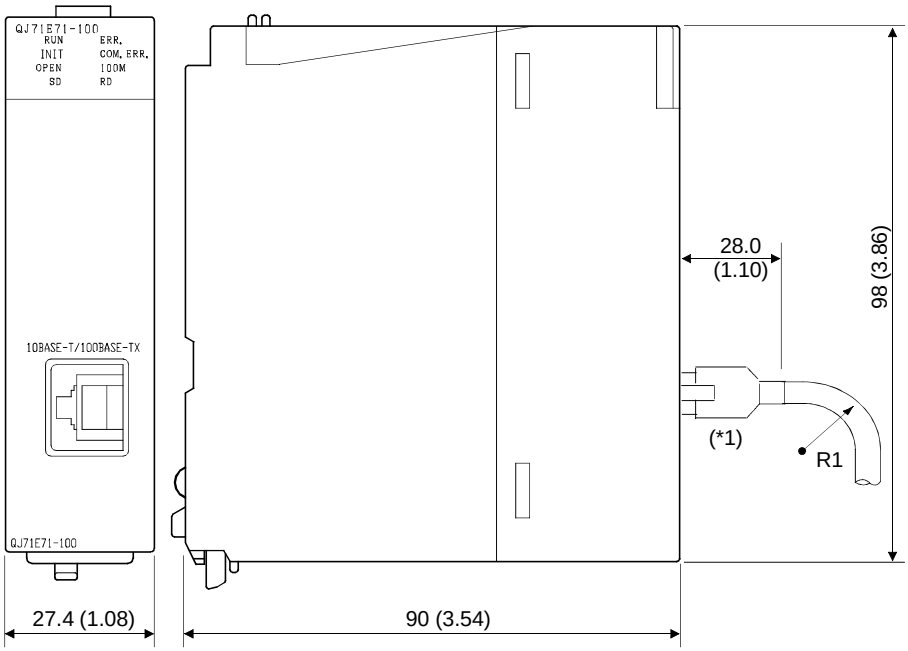
Item			Specification				
			QJ71E71-100		QJ71E71		QJ71E71-B2
			100BASE-TX	10BASE-T	10BASE-T	10BASE5	10BASE2
Transmission Specifications	Data transmission rate		100Mbps	10Mbps			
	Transmission method		Base band				
	Maximum node-to-node distance		-			2500m (8203ft.)	925m (3035ft.)
	Maximum segment length		100m (323ft.) (between hub and node)			500m (1641ft.)	185m (607ft.)
	Maximum number of nodes per connection		Cascade connection, maximum 2	Cascade connection, maximum 4		100 units/ segment	30 units/ segment
	Minimum node interval		-			2.5m (8.2ft.)	0.5m (1.6ft.)
Send/receive data storage memory	Number of simultaneously open connections allowed		16 connections (Connections usable by the sequence program)				
	Fixed buffer		1k words × 16				
	Random access buffer		6k words × 1				
	E-mail (*1)	Attached file	6k words × 1				
		Body (main text)	960 words × 1		-		
Number of I/O points occupied			32 points (I/O assignment: Intelli.)				
5V DC current consumption			0.50A				0.70A
12V DC external supply power capacity (for transceiver)						(*2)	

*1 The following table outlines the specifications of the e-mail transmission and reception function.

Item			Specification				
			QJ71E71-100		QJ71E71		QJ71E71-B2
			100BASE-TX	10BASE-T	10BASE-T	10BASE5	10BASE2
Transmission specifications Sending/ receiving data	Data size	Attached file	6k words × 1				
		Body (main text)	960 words × 1		-		
	Data transfer method		Sending : Transmit either as an attached file or in the body Receiving : Receive as an attached file		Send/receive as an attached file		
	Subject		Us-ASCII format or ISO-2022-JP (Base64)				
	Attached file format		MIME format				
	MIME		Version 1.0				
	Data of attached file format		Binary data/ASCII code/CSV can be selected. File name: XXXX.bin (binary), XXXX.asc (ASCII), XXXX.csv (CSV) (CSV: Comma Separated Value)				
	Division of attached file		Not performed (Only 1 file can be sent/received.) Note) If any divided files are received, only the first file is received and the remaining files are discarded.				
	Sending (encode)		Subject : Base64 Body : 7 bit (QJ71E71-100 only) Attached file : Base64				
	Receiving (decode)		Subject : (not decoded) Body : (cannot be received) Attached file : Base64/7 bit/8 bit Note) Specify the encoding (Base64/7bit/8bit) of the attached file, when sending an e-mail from an external device to PLC side.				
	Encryption		No				
	Compression		No				
	Communication with mail server		SMTP (sending server) Port number = 25 POP3 (receiving server) Port number = 110				

*2 It is necessary to use a power supply that meets the specifications of the transceiver and AUI cable, considering the voltage drop (maximum 0.80V) in the module.

[Outside Dimensions]



Unit : mm (inch)

*1 The bending radius near the connector (reference value: R1) should be four times large as the cable's external diameter or larger, for twisted pair cable connection.

[Packing List]

Product Name	Model
Type QJ71E71-100 Ethernet Interface Module	QJ71E71-100
Type QJ71E71 Ethernet Interface Module	QJ71E71
Type QJ71E71-B2 Ethernet Interface Module	QJ71E71-B2

[Manual]

Manual name	Manual shipping form	IB/SH number	Model code
Ethernet Interface module User's Manual (Hardware)	Enclosed with the product	IB-0800009-D or later	13JQ35
Q Corresponding Ethernet Interface Module User's Manual (Basic)	Sold separately	SH-080009-C or later	13JL88
Q Corresponding Ethernet Interface Module User's Manual (Application)	Sold separately	SH-080010-C or later	13JL89
Q Corresponding Ethernet Interface Module User's Manual (Web function)	Sold separately	SH-080180	13JR40
Q Corresponding MELSEC Communication Protocol Reference Manual	Sold separately	SH-080008-C or later	13JF89

Country/Region	Sales office	Tel/Fax
U.S.A	Mitsubishi Electric Automation Inc. 500 Corporate Woods Parkway Vernon Hills, IL 60061	Tel : 1-847-478-2100 Fax : 1-847-478-0328
Brazil	MELCO-TEC Rep. Com.e Assessoria Tecnica Ltda. Av. Rio Branco, 123-15 ,and S/1507, Rio de Janeiro, RJ CEP 20040-005, Brazil	Tel : 55-21-221-8343 Fax : 55-21-221-9388
Germany	Mitsubishi Electric Europe B.V. German Branch Gothaer Strasse 8 D-40880 Ratingen, GERMANY	Tel : 49-2102-486-0 Fax : 49-2102-486-717
U.K	Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, Hatfield, Herts., AL10 8XB,UK	Tel : 44-1707-276100 Fax : 44-1707-278695
Italy	Mitsubishi Electric Europe B.V. Italian Branch Centro Dir. Colleoni, Pal. Perseo - Ingr.2 Via Paracelso 12, 20041 Agrate B., Milano, Italy	Tel : 39-039-6053301 Fax : 39-039-6053312
Spain	Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi 76-80 08190 - Sant Cugat del Valles, Barcelona, Spain	Tel : 34-935-653135 Fax : 34-935-891579
South Africa	MSA Manufacturing (Pty) Ltd. P O Box 39733 Bramley 201 8 Johannesburg, South Africa	Tel : 27-11-444-8080 Fax : 27-11-444-8304
Hong Kong	Ryoden International Ltd. 10th Floor, Manulife Tower, 169 Electric Road, North Point, HongKong	Tel : 852-2887-8870 Fax : 852-2887-7984
China	Ryoden International Shanghai Ltd. 3F Block5 Building Automation Instrumentation Plaza 103 Cao Bao Rd. Shanghai 200233 China	Tel : 86-21-6475-3228 Fax : 86-21-6484-6996
Taiwan	Setsuyo Enterprise Co., Ltd. 6F., No.105 Wu-Kung 3rd.RD, Wu-Ku Hsiang, Taipei Hsine, Taiwan R.O.C.	Tel : 886-2-2299-2499 Fax : 886-2-2299-2509
Korea	HAN NEUNG TECHNO CO.,LTD. 1F Dong Seo Game Channel Bldg., 660-11,Deungchon-dong Kangsec-ku, Seoul, Korea	Tel : 82-2-3668-6567 Fax : 82-2-3664-8335
Singapore	Mitsubishi Electric Asia Pte, Ltd. 307 ALEXANDRA ROAD #05-01/02, MITSUBISHI ELECTRIC BUILDING SINGAPORE 159943	Tel : 65-473-2480 Fax : 65-476-7439
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India	Messung Systems Put,Ltd. Electronic Sadan NO:111 Unit No15, M.I.D.C BHOSARI,PUNE-411026	Tel : 91-20-7128927 Fax : 91-20-7128108
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