



Open Field Network CC-Link

2002 No.198E

NEW PRODUCT RELEASE

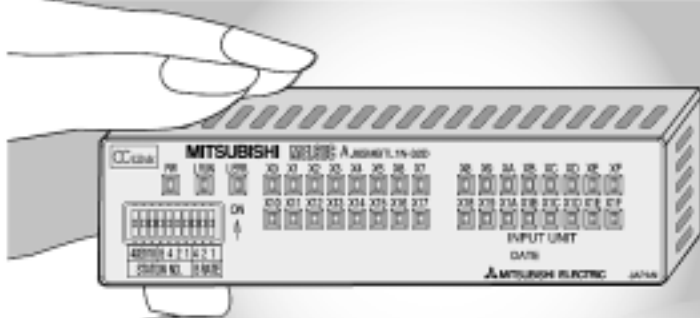
CC-Link

AJ65MBTL1N-32D, AJ65MBTL1N-32T
Embedded I/O Adapters

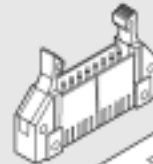
New!

'32-Point' Type Embedded I/O Adapter!

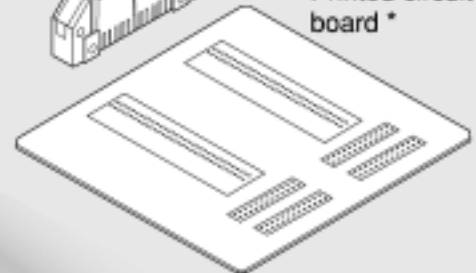
Advanced Function, High Performance, Ultra-compact!



Connector *

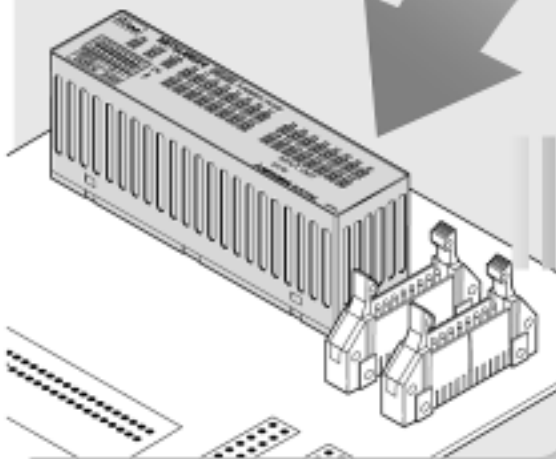


Printed circuit board *



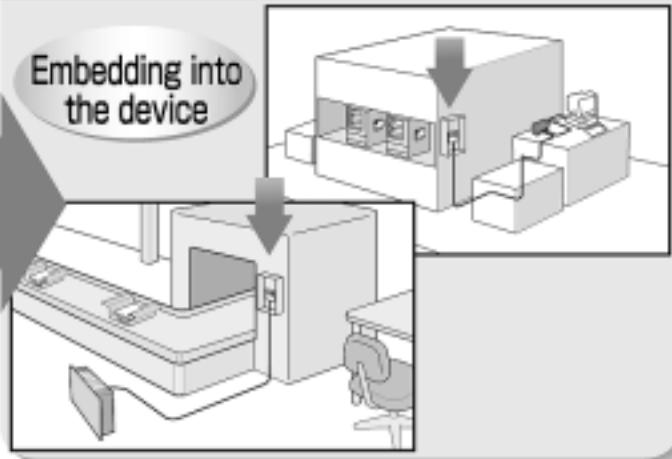
* Connector and printed circuit board have to be produced by the customer.

Mounting
onto the printed
circuit board



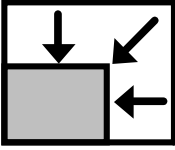
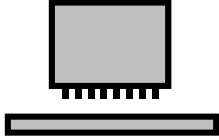
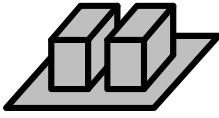
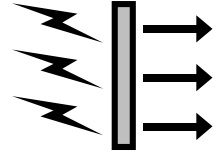
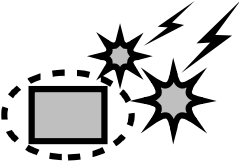
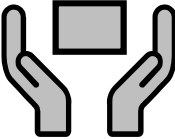
More efficient design to match the device

Embedding into
the device



[Features]

Remote I/O adapter that works by being embedded into a device.

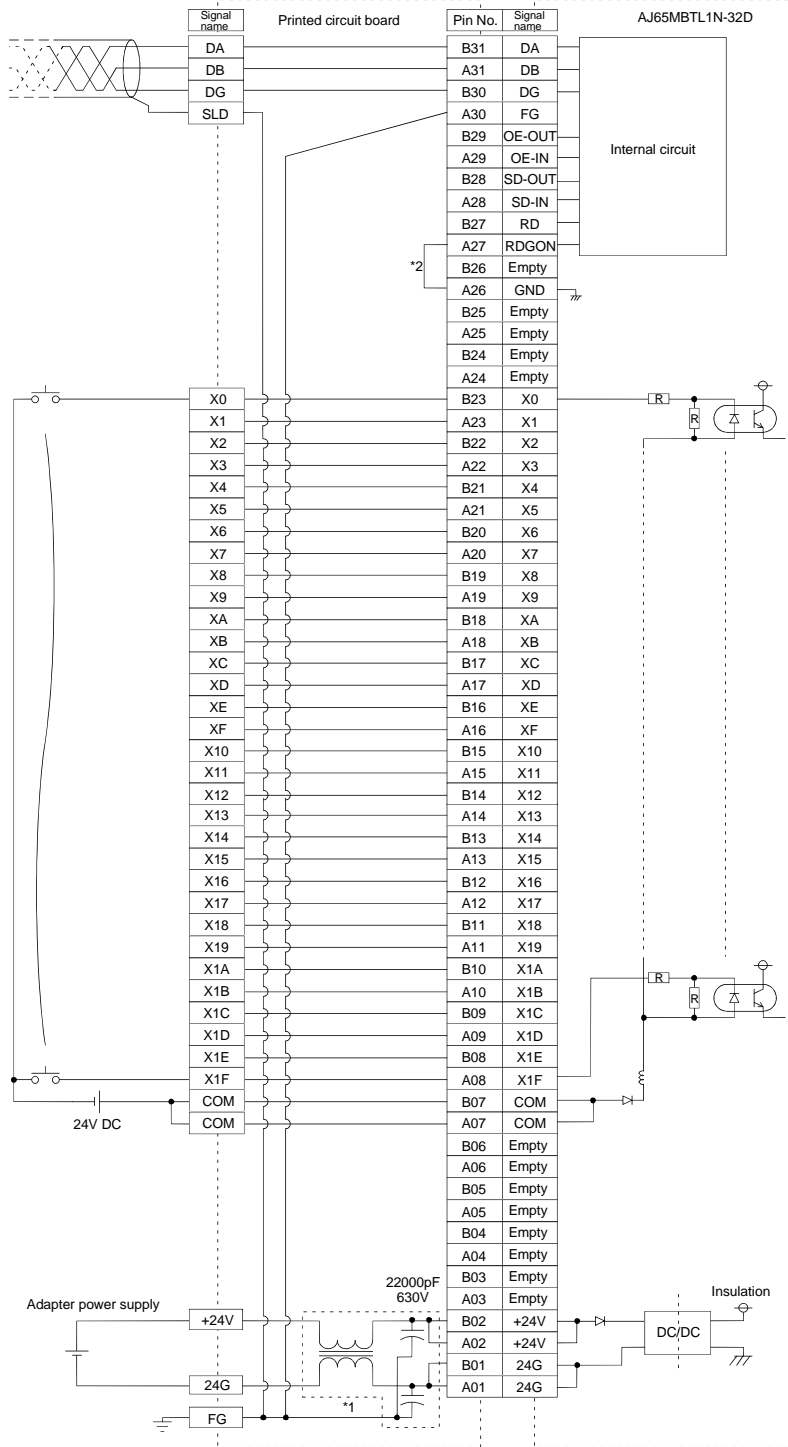
1)		▶▶▶	Ultra-compact type!! 25% smaller than the conventional AJ65SBTC1-32D compact remote I/O module.
2)		▶▶▶	Pin header connection Directly mountable onto the customer produced printed circuit board.
3)		▶▶▶	Cascade connection! Two adapters can be mounted on one printed circuit board. (Up to 64 points are supported.)
4)		▶▶▶	An external additional filter is available to enhance noise durability If noise reduction is required, a noise filter can be added on an external printed circuit board.
5)		▶▶▶	Transformer-isolation for power supply, and Photocoupler isolation for External I/O.
6)		▶▶▶	Enhanced protection! The transistors in the output circuit provide protection against overload, over-voltage, and overheat.

[Performance Specifications]

(1) AJ65MBTL1N-32D Embedded Input Adapter

Specification		Form	DC input adapter
			AJ65MBTL1N-32D
Input specification			
Number of input points		32 points	
Isolation method		Photocoupler	
Rated input voltage		24V DC	
Rated input current		Approx. 4mA	
Operating voltage range		19.2 to 26.4V DC (ripple ratio: within 5%)	
Max. simultaneous ON input points		50%	
ON voltage/ON current		18V or higher/3.5mA or higher	
OFF voltage/OFF current		6V or lower/1.7mA or lower	
Input resistance		Approx. 5.1k Ω	
Response time	OFF \rightarrow ON	1.5ms or lower (at 24V DC)	
	ON \rightarrow OFF	1.5ms or lower (at 24V DC)	
Input type		Positive common (sink)	
Wiring method for common		32 points/1 common	
CC-Link station type		Remote I/O station	
Number of occupied stations		1 station 32 points assignment (use 32 points)	
I/O adapter power supply	Voltage	20.4 to 26.4V DC (ripple rate: within 5%)	
	Current	45mA or lower (at 24V DC)	
Noise durability		DC type noise voltage 500Vp-p, noise width 1 μ s, noise carrier frequency 25 to 60Hz (noise simulator condition)	
Dielectric withstand voltage		500V AC for 1 minute between all DC external terminals and ground	
Insulation resistance		10M Ω or higher, measured with a 500V DC insulation resistance tester between all DC external terminals and ground	
Weight		0.04kg	
External wiring system		62-pin, 2-row, 2mm-pitch pin header	

External connection



Pin No.	Signal name	Pin No.	Signal name
B31	DA	A31	DB
B30	DG	A30	FG
B29	OE-OUT	A29	OE-IN
B28	SD-OUT	A28	SD-IN
B27	RD	A27	RDGON
B26	Empty	A26	GND
B25	Empty	A25	Empty
B24	Empty	A24	Empty
B23	X0	A23	X1
B22	X2	A22	X3
B21	X4	A21	X5
B20	X6	A20	X7
B19	X8	A19	X9
B18	XA	A18	XB
B17	XC	A17	XD
B16	XE	A16	XF
B15	X10	A15	X11
B14	X12	A14	X13
B13	X14	A13	X15
B12	X16	A12	X17
B11	X18	A11	X19
B10	X1A	A10	X1B
B09	X1C	A09	X1D
B08	X1E	A08	X1F
B07	COM	A07	COM
B06	Empty	A06	Empty
B05	Empty	A05	Empty
B04	Empty	A04	Empty
B03	Empty	A03	Empty
B02	+24V	A02	+24V
B01	24G	A01	24G

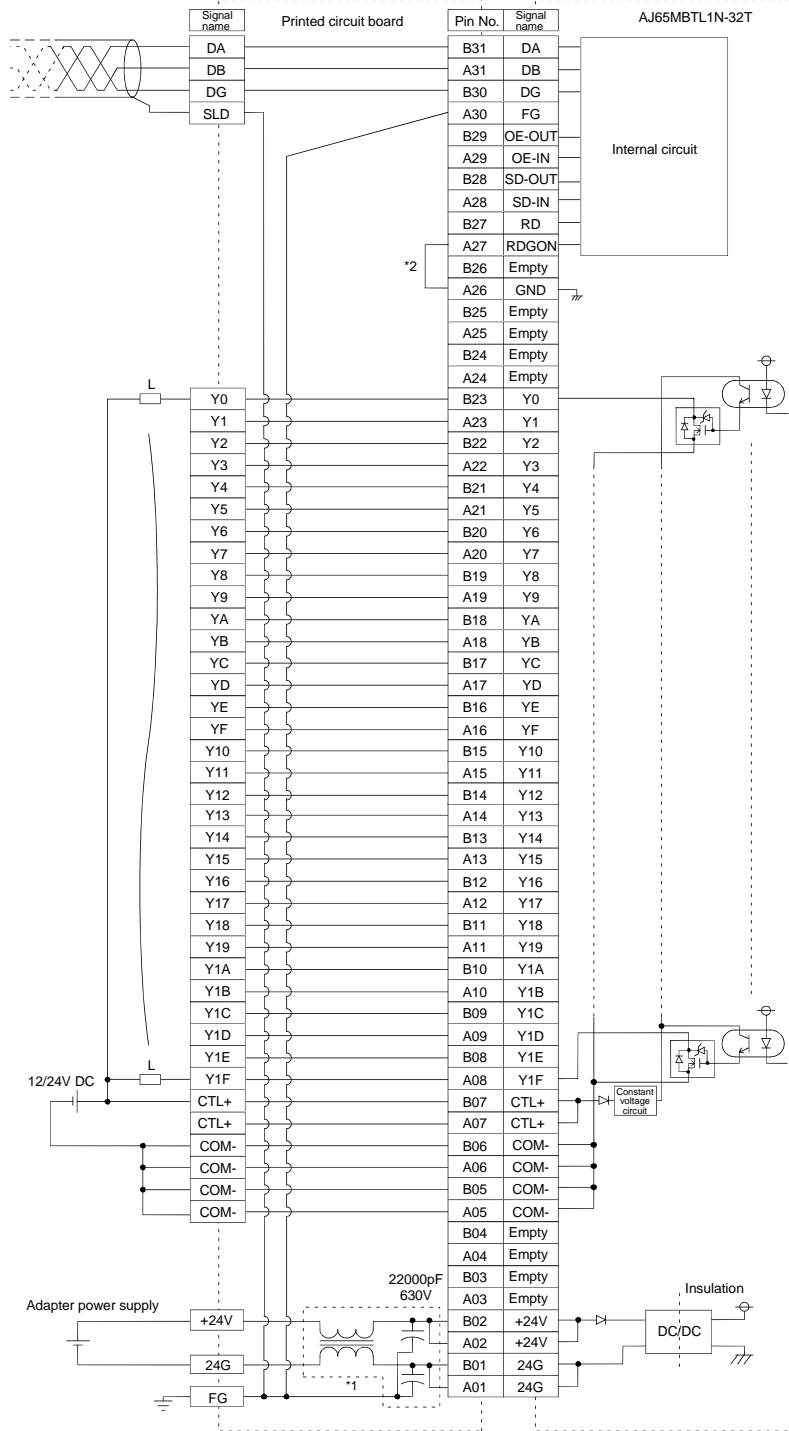
*1 Mitsubishi recommends the customer to add a transformer and capacities according to the electromagnetic environment.

*2 Connect A26 and A27 when the adapters are not cascaded.

(2) AJ65MBTL1N-32T Embedded Output Adapter

Form		Transistor output adapter
Specification		AJ65MBTL1N-32T
Output specification		
Number of output points		32 points
Isolation method		Photocoupler
Rated load voltage		12/24V DC
Operating load voltage range		10.2 to 26.4V DC (ripple ratio: within 5%)
Max. load current		0.1A/point, 3.2A/1 common
Max. inrush current		0.7A 10ms or lower
Leakage current at OFF		0.1mA or lower
Max. voltage drop at ON		0.1V or lower (TYP) 0.1A 0.2V or lower (MAX) 0.1A
Output method		Sink type
Protection functions		Overload, over-voltage, and overheat protection
Response time	OFF → ON	1ms or lower
	ON → OFF	1ms or lower (rated load, resistive load)
External Power supply for output	Voltage	10.2 to 26.4V DC (ripple ratio: within 5%)
	Current	15mA or lower (when all points are ON at 24V DC) Not including external load current
Surge suppression		Zener diode
Wiring method for common		32 points/1 common
CC-Link station type		Remote I/O station
Number of occupied stations		1 station 32 points assignment (use 32 points)
I/O adapter power supply	Voltage	20.4 to 26.4V DC (ripple ratio: within 5%)
	Current	60mA or lower (when all points are ON at 24V DC)
Noise durability		DC type noise voltage 500Vp-p, noise width 1 μs, noise carrier frequency 25 to 60Hz (noise simulator condition)
Dielectric withstand voltage		500V AC for 1 minute between all DC external terminals and ground
Insulation resistance		10M Ω or higher, measured with a 500V DC insulation resistance tester between all DC external terminals and ground
Weight		0.04kg
External wiring system		62-pin, 2-row, 2mm-pitch pin header

External connection

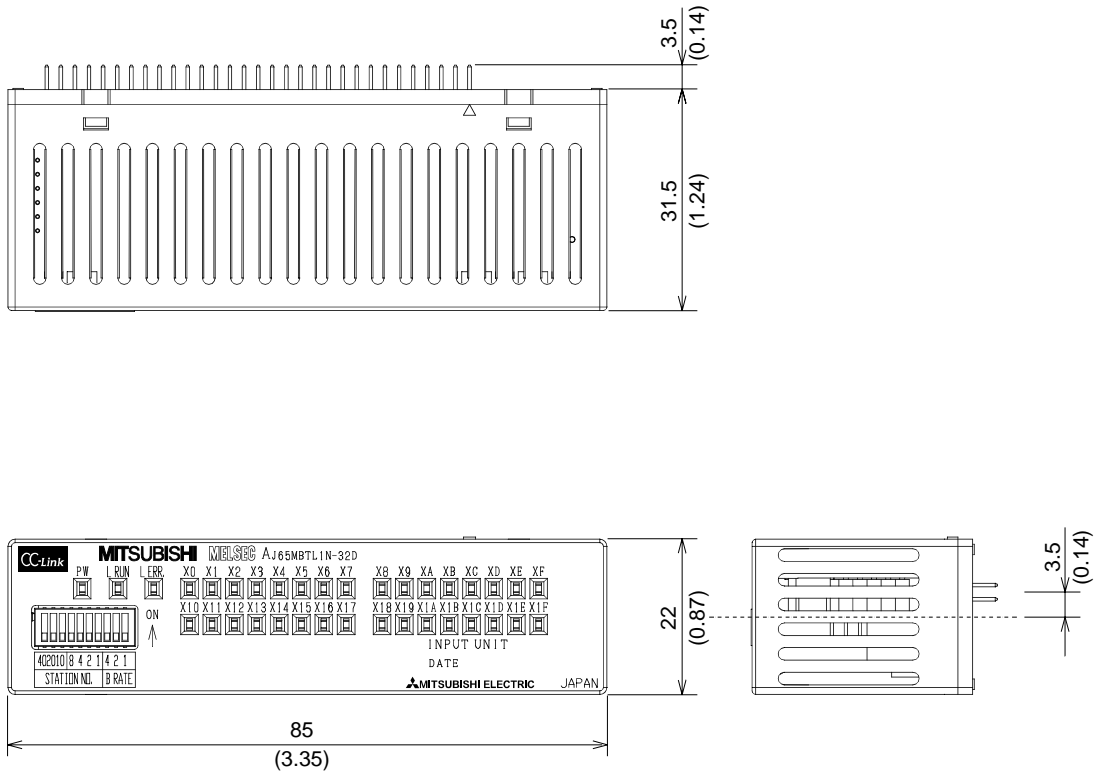


Pin No.	Signal name	Pin No.	Signal name
B31	DA	A31	DB
B30	DG	A30	FG
B29	OE-OUT	A29	OE-IN
B28	SD-OUT	A28	SD-IN
B27	RD	A27	RDGON
B26	Empty	A26	GND
B25	Empty	A25	Empty
B24	Empty	A24	Empty
B23	Y0	A23	Y1
B22	Y2	A22	Y3
B21	Y4	A21	Y5
B20	Y6	A20	Y7
B19	Y8	A19	Y9
B18	YA	A18	YB
B17	YC	A17	YD
B16	YE	A16	YF
B15	Y10	A15	Y11
B14	Y12	A14	Y13
B13	Y14	A13	Y15
B12	Y16	A12	Y17
B11	Y18	A11	Y19
B10	Y1A	A10	Y1B
B09	Y1C	A09	Y1D
B08	Y1E	A08	Y1F
B07	CTL+	A07	CTL+
B06	COM-	A06	COM-
B05	COM-	A05	COM-
B04	Empty	A04	Empty
B03	Empty	A03	Empty
B02	+24V	A02	+24V
B01	24G	A01	24G

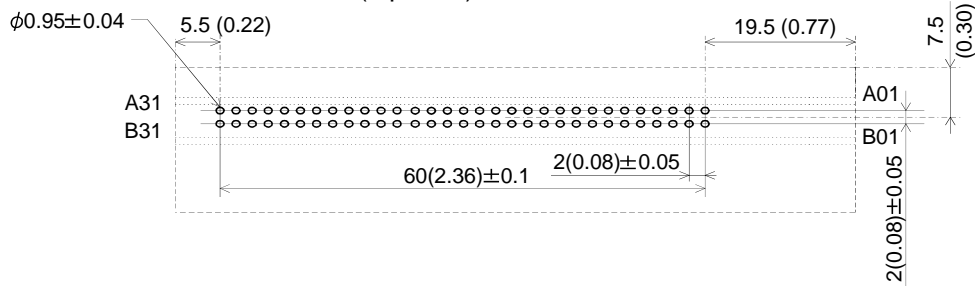
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*2 Connect A26 and A27 when the adapters are not cascaded.

[External Dimensions]

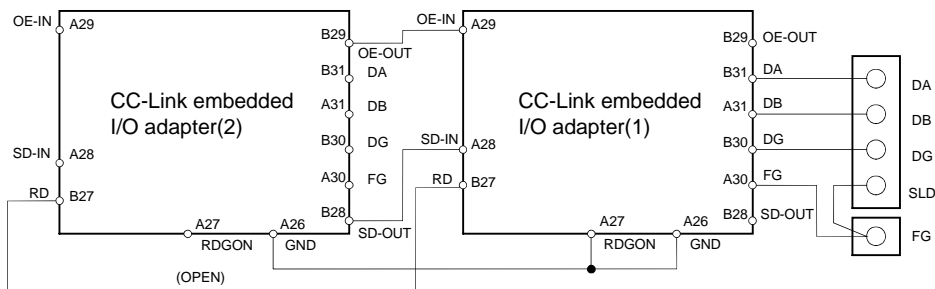


Recommended board dimensions (top view)



Unit: mm(inch)

[Cascade Connection Method]



* Place the I/O adapters at least 5mm (0.2in.) away from each other.

[Precautions for T-Branch System]

The following table shows the CC-Link master and local modules applicable to T-branch system.

Master/Local Module Type	Hardware Version
AJ61QBT11	"D" or later
AJ61BT11	"D" or later
A1SJ61QBT11	"E" or later
A1SJ61BT11	"E" or later

* : There are no restrictions on the QJ61BT11.

[Product list]

Product name	
NEW	AJ65MBTL1N-32D Embedded Input Adapter
NEW	AJ65MBTL1N-32T Embedded Output Adapter
Now on sale	AJ65MBTL1N-16DT Embedded I/O adapter
Now on sale	AJ65MBTL1N-16D Embedded Input Adapter
Now on sale	AJ65MBTL1N-16T Embedded Output Adapter

[Manual]

Manual name	Manual supply status	IB/SH No. (following version or later manual)	Model code
CC-Link Embedded I/O Adapter User's Manual	Sold separately	SH-080324E-B	13JR59

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 : +39-039-60531 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	Circuit Breaker Industries LTD. Private Bag 2016, Isando 1600, Johannesburg, South Africa	Tel : +27-11-928-2000 Fax : +27-11-392-2354
Hong Kong	Ryoden Automation 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	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 : +82-2-3660-9552 Fax : +82-2-3664-8372
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
Thailand	F. A. Tech Co.,Ltd. 898/28,29,30 S.V.CITY BUILDING,OFFICE TOWER 2,FLOOR 17-18 RAMA 3 ROAD,BANGKPOONGPANG,YANNAWA,BANGKOK 10120	Tel : +66-2-682-6522 Fax : +66-2-682-6020
Indonesia	P.T. Autoteknindo SUMBER MAKMUR JL. MUARA KARANG SELATAN BLOK A UTARA NO.1 KAV. NO.11 KAWASAN INDUSTRI/ PERGUDANGAN JAKARTA - UTARA 14440	Tel : +62-21-663-0833 Fax : +62-21-663-0832
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
Australia	Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road, PostalBag, No 2, Rydalmere, N.S.W 2116, Australia	Tel : +61-2-9684-7777 Fax : +61-2-9684-7245

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