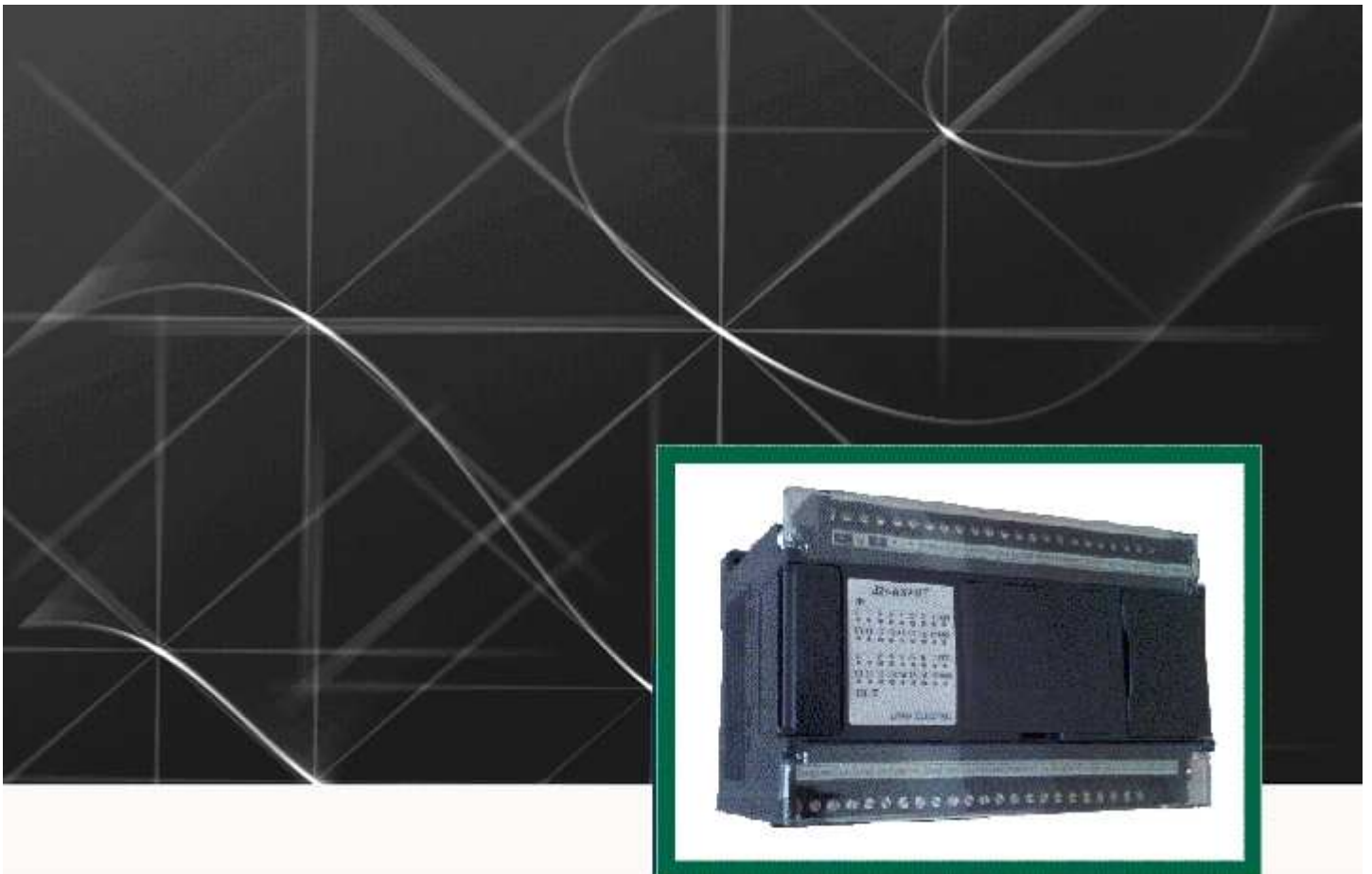


Liyan

PROGRAMMABLE LOGIC CONTROLLER

Jn Series

4 axes inside

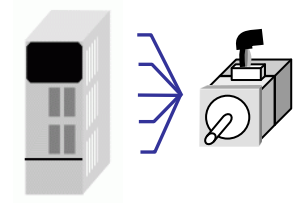
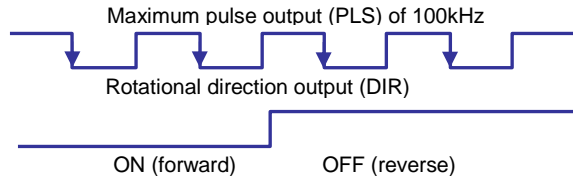
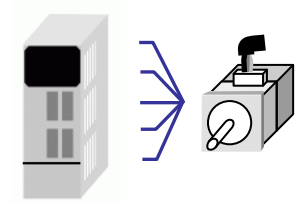
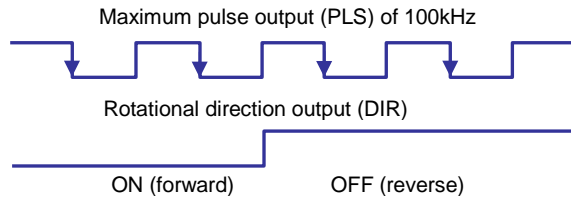


Multi-Axes Moving
Marking, Fly Saw, Rotary Cut Function
Proportion Control, Manual Pulse Generator(MPG) Function
Floating point function, Square root, Trigonometric function

<http://www.liyanplc.com.tw>

Position Control

◆ System Configuration J1n and J2n Series (Transistor output type)



Performance Specification

ITEM		J2	J1
Operating control method		Cyclic operation by stored program	
I/O control method		Batch processing method (when END instruction is executed)	
Operation time		Basic instruction 0.5us, Applied instruction from 2us to several 100us.	
Programming language		Relay symbolic language + Step ladder	
Program capacity / memory		16000 steps (built in EEprom)	8000 steps (built in EEprom)
Number of instruction		Basic instruction: 27; Step ladder instruction: 2; Applied instruction:107	
Input Relay		X000 ~ X177 (Sink/Source DC24V 7mA photo coupler isolation)	
Output Relay		Y000 ~ Y177 (Relay : AC250V/1A or Transistor : DC30V/0.5A)	
Auxiliary Relay (M)	Latched	M000 ~ M499 (EEprom backup)	
	General	M500 ~ M3071 (no backup)	M500 ~ M1535 (no backup)
	Special	M8000 ~ M8255 (no backup)	
State Relay (S)	Latched	S000 ~ S499 (EEprom backup)	
	General	S500 ~ S999 (no backup)	
Timer (T)	100 msec	T000 ~ T199 (no backup)	
	10 msec	T200 ~ T245 (no backup)	
	1 ms integration	4 points, T246 ~ T249 (EEprom backup)	
	100 ms integration	6 points, T250 ~ T255 (EEprom backup)	
	Analog	2 points, (Define by user)	
Counter (C)	16bits Counter	Latched C00 ~ C31 (EEprom backup)	
		General C32 ~ C199	
	32bits Counter	General C200 ~ C215	
		Latched C216 ~ C255 (EEprom backup)	
HighSpeedCounter 100KHz	J2n32M(T)R : 1 phase1count (8)points X0~X7 2phase2count -ABphase(x4) J22(4)A,J22(4)B : 1 phase1count (6)points X0~X5 2phase2count -ABphase(x3)	J1n32M(T)R : 1 phase1count (6)points X0~X5 2phase2count -ABphase(x2)	
Data Register	Latched	D000 ~ D255 (EEprom backup)	
	General	D256 ~ D7999 (can use FNC(12) MOV stored at EEPROM)	
	Special	D8000 ~ D8255 (no backup)	
Index		V0 ~ V7, Z0 ~ Z7	
Nest Routine (N)		N0 ~ N7	
Subroutine Pointer (P)		P000 ~ P127 (CJ, CALL)	
Interrupt Pointer (I)		I00x, I10x, I20x, I30x, I40x, I50x (External interrupt), x=1 rising edge, x=0 falling edge	
		I8xx (timer interrupt), xx=01~99ms	
		I010, I020, I030, I040, I050, I060 : High speed counter interrupt	
Communication Interface		(COM1)RS-422 (COM2)option RS-232C/RS-422,RS-485	
Calendar (Option)		Week, Year, Month, Day, Hour, Minute, Second	
Constant(K)	Decimal	16 bits: -32,768 ~ +32,767	
		32 bits: -2,147,483,648 ~ +2,147,483,647	
Constant(H)	Hexadecimal	16 bits: 0000h ~ FFFFh	
		32 bits: 00000000h ~ FFFFFFFFh	

◆ Basic Instruction

Mnemonic	Function	Devices	Mnemonic	Function	Devices
LD	LoaD	X . Y . M . S . T . C	MC	Master Control	Y . M .
LD I	LoaD Inverse	X . Y . M . S . T . C	MCR	Master Control Reset	N/A
OUT	OUT	Y . M . S . T . C	MPS	Point Store	N/A
AND	AND	X . Y . M . S . T . C	MRD	Read	N/A
AN I	AND Inverse	X . Y . M . S . T . C	MPP	PoP	N/A
OR	OR	X . Y . M . S . T . C	END	END	N/A
OR I	OR Inverse	X . Y . M . S . T . C	LDP	LoaD Pulse	X . Y . M . S . T . C
ANB	ANd Block	N/A	LDF	LoaD Falling pulse	X . Y . M . S . T . C
ORB	OR Block	N/A	ANP	ANd Pulse	X . Y . M . S . T . C
NOP	No Operation	N/A	ANF	ANd Falling pulse	X . Y . M . S . T . C
SET	SET	Y . M . S	ORP	OR Pulse	X . Y . M . S . T . C
RST	ReSeT	X . Y . M . S . T . C	ORF	OR Falling pulse	X . Y . M . S . T . C
PLS	PuLSe	Y . M .	INV	INVerse	N/A
PLF	PuLse Falling	Y . M .			

◆ STL Instruction


Mnemonic	Function	Devices	Mnemonic	Function	Devices
STL	Beginning of stage Ladder	S	RET	End of Stage Ladder	N/A

◆ Applied Instruction


FNCNO.	Mnemonic	(D)	(P)	Function	J1n	J2n	FNCNO	Mnemonic	(D)	(P)	Function	J1n	J2n
0	CJ		○	Conditional Jump	○	○	74	SEGL			Seven segment with latch	—	—
1	CALL		○	Call subroutine	○	○	75	ARWS			Arrow switch	—	—
2	SRET			Subroutine return	○	○	76	ASC			ASCII code conversion	○	○
3	I RET			Interrupt return	○	○	77	PR			Print	—	—
4	E I			Enable interrupts	○	○	78	FROM	○	○	FROM	○	○
5	D I			Disable interrupts	○	○	79	TO	○	○	TO	○	○
6	FEND			First end	○	○	80	RS			Serial Communications instruction	○	○
7	WDT		○	Watch dog timer refresh	○	○	81	PRUN	○	○	Parallel run	○	○
8	FOR			Start of a FOR-NEXT loop	○	○	82	ASCI	○	○	Converts HEX to ASCII	○	○
9	NEXT			End of a FOR-NEXT loop	○	○	83	HEX	○	○	Converts ASCII to HEX	○	○
10	CMP	○	○	Compare	○	○	84	CCD	○	○	Check Code	○	○
11	ZCP	○	○	Zone compare	○	○	85	VRRD	○	○	Volume read	○	○
12	MOV	○	○	Move	○	○	86	VRSC	○	○	Volume scale	○	○
13	SMOV		○		—	—	88	P I D			PID control loop register each	○	○
14	CML	○	○	Compliment	○	○							
15	BMOV		○	Block move	○	○	110	ECMP	○	○	Floating Point Compare	—	○
16	FMOV	○	○	Fill move	○	○	111	EZCP	○	○	Floating Point Zone Compare	—	○
17	XCH	○	○	Exchange	○	○	118	EBCD	○	○	Float to Scientific conversion	—	—
18	BCD	○	○	B I N → BCD Binary coded decimal	○	○	119	EBIN	○	○	Scientific to Float conversion	—	—
19	B I N	○	○	BCD → B I N Binary	○	○	120	EADD	○	○	Floating Point Addition	—	○
20	ADD	○	○	Addition (S1) + (S2) → (D)	○	○	121	ESUB	○	○	Floating Point Sub-traction	—	○
21	SUB	○	○	Subtract (S1) - (S2) → (D)	○	○	122	EMUL	○	○	Floating Point Multiplication	—	○
22	MUL	○	○	Multiplication (S1) × (S2) → (D)....(D)	○	○	123	EDIV	○	○	Floating Point Division	—	○
23	DIV	○	○	Division (S1) ÷ (S2) → (D)....(D)	○	○	127	ESQR	○	○	Floating Point Square Root	—	○
24	I NC	○	○	Increment (D)+1 → (D)	○	○	129	INT	○	○	Float to Integer	—	○
25	DEC	○	○	Decrement (D) -1 → (D)	○	○	130	SIN	○	○	Sine	—	○
26	WAND	○	○	Logical word AND (S1) AND (S2) → (D)	○	○	131	COS	○	○	Cosine	—	○
27	WOR	○	○	Logical word OR (S1) OR (S2) → (D)	○	○	132	TAN	○	○	Tangent	—	○
28	WXOR	○	○	Logical exclusive OR (S1)∨(S2) → (D)	○	○	147	SWAP	○	○	Byte Swap	○	○
29	NEG	○	○	Negation /(D) +1 → (D)	○	○	155	ABS	○		Absolute current value read	—	—
30	ROR	○	○	Rotation Right	○	○	156	ZRN	○		Zero return	○	○
31	ROL	○	○	Rotation Left	○	○	157	PLSV	○		Pulse V	○	○
32	RCR	○	○	Rotation Right with Carry	○	○	158	DRV I	○		Drive to increment	○	○
33	RCL	○	○	Rotation Left with Carry	○	○	159	DRVA	○		Drive to absolute	○	○
34	SFTR		○	Bit Shift Right	○	○	160	TCMP	○	○	Time Compare	○	○
35	SFTL		○	Bit Shift Left	○	○	161	TZCP	○	○	Time Zone Compare	○	○
36	WSFR	○	○	Word Shift Right	○	○	162	TADD	○	○	Time Addition	○	○
37	WSFL	○	○	Word Shift Left	○	○	163	TSUB	○	○	Time Subtraction	○	○
38	SFWR	○	○	Shift Register Write	○	○	166	TRD	○	○	Time Read	○	○
39	SFRD	○	○	Shift Register Read	○	○	167	TWR	○	○	Time Write	○	○
40	ZRST	○	○	Zone Reset	○	○	169	HOUR	○		Hour meter	—	—
41	DECO		○	Decode	○	○	170	GRY	○	○	Gray Code	○	○
42	ENCO		○	Encode	○	○	171	GBIN	○	○	Gray Code	○	○
43	SUM	○	○	The Sum of Active Bits	○	○	176	RD3A		○	Read EX-3A	—	—
44	BON	○	○	Check Specified Bit Status	○	○	177	WR3A	○		Write EX-3A	—	—
45	MEAN		○	Mean	○	○	224	LD=	○		Load compare when (S1) = (S2) ON	○	○
46	ANS			Timed annunciator Set	—	—	225	LD>	○		Load compare when (S1) > (S2) ON	○	○
47	ANR		○	Annunciator Reset	—	—	226	LD<	○		Load compare when (S1) < (S2) ON	○	○
48	SQR	○	○	Square Root	○	○	228	LD<>	○		Load compare when (S1)<>(S2) ON	○	○
49	FLT	○	○	Floating Point	○	○	229	LD≤	○		Load compare when (S1)≤(S2) ON	○	○
50	REF		○	Refresh	○	○	230	LD≥	○		Load compare when (S1)≥(S2) ON	○	○
51	REFF		○	Refresh and filter adjust	○	○	232	AND=	○		AND compare when (S1) = (S2) ON	○	○
52	MTR			Input matrix	○	○	233	AND>	○		AND compare when (S1) > (S2) ON	○	○
53	HSCS	○		High speed counter set	○	○	234	AND<	○		AND compare when (S1) < (S2) ON	○	○
54	HSCR	○		High speed counter reset	○	○	236	AND<>	○		AND compare when (S1)<>(S2) ON	○	○
55	HSZ	○		High speed counter zone compare	○	○	237	AND≤	○		AND compare when (S1)≤(S2) ON	○	○
56	SPD			Speed detect	○	○	238	AND≥	○		AND compare when (S1)≥(S2) ON	○	○
57	PLSY	○		Pulse Y output	○	○	240	OR=	○		OR compare when (S1) = (S2) ON	○	○
58	PWM			Pulse width modulation	○	○	241	OR>	○		OR compare when (S1) > (S2) ON	○	○
59	PLSR	○		Ramp Pulse output	○	○	242	OR<	○		OR compare when (S1) < (S2) ON	○	○
60	I ST			Initial State	—	—	244	OR<>	○		OR compare when (S1)<>(S2) ON	○	○
61	SER	○	○	Search a Data Stack	—	—	245	OR≤	○		OR compare when (S1)≤(S2) ON	○	○
62	ABSD	○		Absolute drum sequencer	○	○	246	OR≥	○		OR compare when (S1)≥(S2) ON	○	○
63	I NCD			Incremental drum sequencer	○	○							
64	TTMR			Teaching timer	—	—							
65	STMR			Special timer	—	—							
66	ALT		○	Alternate state	○	○							
67	RAMP			Ramp variable value	○	○							
68	ROTC			Rotary table control	—	—							
69	SORT			SORT Tabulated Data	—	—							
70	TKY	○		Ten key input	○	○							
71	HKY	○		Hexadecimal key input	○	○							
72	DSW			Digital switch	○	○							
73	SEGD		○	Seven segment decoder	○	○							

Products




J1n Series Master Unit

Model	I/O Number	Inputs	Outputs	Dimensions	
	J1n24MR	24	16	8	Relay
	J1n24MT				Transistor (NPN)
	J1n32MR	32	16	16	Relay
	J1n32MT				Transistor (NPN)


J2n Series Master Unit

Model	I/O Number	Inputs	Outputs	Dimensions		
	J2n24MR	24	16	Sink / Source selectable	8	Relay
	J2n24MT					Transistor (NPN)
	J2n32MR	32	16		16	Relay
	J2n32MT					Transistor (NPN)


Expansion I/O Unit

Model	I/O Number	Inputs	Outputs	Dimensions			
	J1s08EX	8	8	Sink / Source selectable	0	---	
	J1s08ER	8	4		4	Relay	
	J1s08ET					Transistor (NPN)	
	J1s08EYR	8	0		---	8	Relay
	J1s08EYT						Transistor (NPN)
	J1n16EX	16	16	Sink / Source selectable	0	---	
	J1n16ER	16	8		8	Relay	
	J1n16ET					Transistor (NPN)	
	J1n16EYR	16	0		---	16	Relay
	J1n16EYT						Transistor (NPN)
	J1n24ER	24	16	Sink / Source selectable	8	Relay	
	J1n24ET					Transistor (NPN)	
	J1n32ER	32	16		16	Relay	
	J1n32ET					Transistor (NPN)	


Remote I/O Module

Model	I/O Number	Inputs	Outputs	Dimensions		
	EXRM0808R	16	8	Sink / Source selectable	8	Relay
	EXRM0808T					Transistor (NPN)

Wire Expansion Module

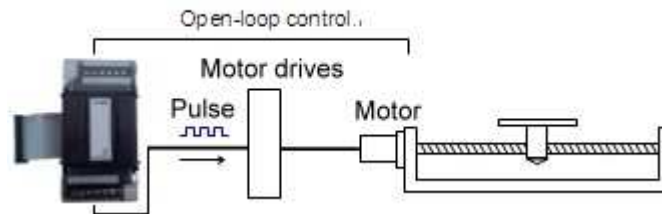
Model	I/O Number	Wire Length	Dimensions
	J1nNEXT-50	0	50cm
	J1nNEXT-80		80cm

Power Expansion Module

Model	Wire Length	Dimensions
	Input : 100-240VAC 50/60Hz	B type
	Output : DC24V ±15% 500mA	

Positioning Controller

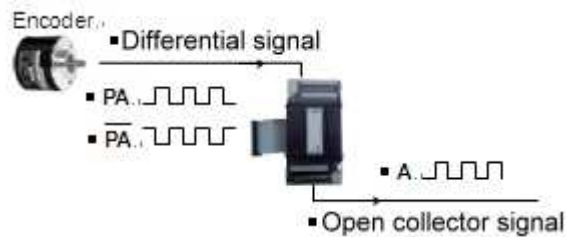
- J1n1PG



Item	Specifications	
Number of control axes	1 axis / block, maximum expand to 8 blocks	
Operation speed	10pps ~ 100Kpps	
Setting position data range	-2,147,483,648 ~ 2,147,483,647	
Pulse output format	PLS and DIR, CW and CCW	
Number of I/O points occupied	NONE	
Power supply	For input signals	24VDC±10% from the output voltage of PLC, Current consumption : 40mA or less
	For internal control	5VDC, 60mA supplied from PLC via extension cable
	For pulse output	24VDC±10%, current consumption : 40mA or less
Applicable PLC	J1n / J2n series PLC	
Dimensions	C type	
Weight (NW)	186gw	

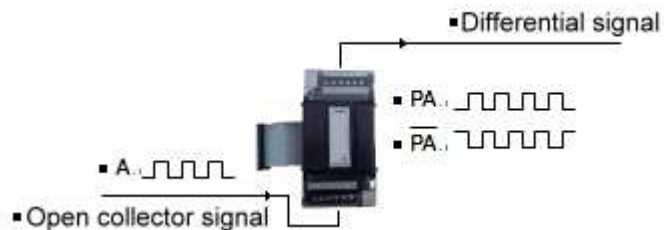
Signal Conversion Module

- J1nLTOC Line driver TO open Collector



Item	Specifications
Input signal	Line Driver Signal (PA, PA, PB, PB, PZ, PZ)
Output signal	Open Collector Signal (A, B, Z)
Number of I/O points occupied	None
Power supply	24VDC±10%, 40mA or less
Applicable PLC	J1n / J2n series PLC
Dimensions	C type
Weight	140gw

- J1nCTOL open Collector TO Line driver



Item	Specifications
Input signal	Open Collector Signal (A, B, Z)
Output signal	Line Driver Signal (PA, PA, PB, PB, PZ, PZ)
Number of I/O points occupied	None
Power supply	24VDC±10%, 40mA or less
Applicable PLC	J1n / J2n series PLC
Dimensions	C type
Weight	140gw

類比模組

- J1n2DA



- ◆ Two channels for voltage output (-10V ~ +10V DC) or current output (4 to 20mA DC)
- ◆ Voltage or Current output can be specified for each channel
- ◆ 12bits + 1 sign bit resolution

Item	Voltage output	Current output
Analog output range	-10 to 10V DC	4 to 20mA
Resolution	2.5mV [10-(-10)]V/8000	4μA [(20-4)mA/4000]
Overall accuracy	±1% (full scale -10 to +10V)	±1% (full scale 4 to 20mA)
Conversion speed	2 scan-time / 1 channel	
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Power supply	5VDC, 50mA (digital circuit power from main unit), 24VDC±10%, 100mA (analog circuit)	
Number of occupied I/O points	Occupy 16 output points	
Applicable PLC	J1n, J2n series PLC	
Dimension	C type	
Weight (NW)	200gw	

- J1s2AD



- ◆ This module provide 2 channels of analog input conversion to digital value
- ◆ 11 bits + 1 sign bit resolution, accuracy: ±1%
- ◆ Conversion speed :1 scan-time
- ◆ Number of occupied I/O points : None
- ◆ Dimensions: C type / Weight (NW): 145gw

Item	Voltage input	Current input
Analog input range	-10 to +10V DC	4 to 20mA
Resolution	5.0mV (20V/4000)	8μA (16mA/2000)
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Power supply	5VDC, 40mA (digital circuit power from main unit), 24VDC±10%, 100mA (analog circuit)	
Applicable PLC	J1n, J2n series PLC	

- J1n4AD



- ◆ Four channels for voltage input (-10V to +10V DC) or current input (4 to 20mA DC)
- ◆ For each channel, voltage or current input can be specified independently
- ◆ 11bits + 1 sign bit resolution
- ◆ Power supply : 5VDC, 50mA (digital circuit power from main unit), 24VDC±10%, 100mA (analog circuit)
- ◆ Dimensions : C type / Weight (NW) : 179gw

- J1n8AD



- ◆ Eight channels for voltage input (-10V to +10V DC) or current input (4 to 20mA DC)
- ◆ For each channel, voltage or current input can be specified independently
- ◆ 11bits + 1 sign bit resolution
- ◆ Power supply : 5VDC, 50mA (digital circuit power from main unit), 24VDC±10%, 100mA (analog circuit)
- ◆ Dimensions : B type / Weight (NW) : 250gw

Item	Voltage input	Current input
Analog input range	-10 to +10V DC (input resistance 102KΩ)	4 to 20mA DC (input resistance 500Ω)
Resolution	5mV (20V/4000)	8μA [(20-4)mA/4000]
Overall accuracy	±1% (full scale -10 to +10V)	±1% (full scale 4 to 20mA)
Conversion speed	500μs x Number of used channel	
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Number of occupied I/O points	None	
Applicable PLC	J1n, J2n series PLC	

Analog Module

- J1s2LD



- ◆ This module provide 2 channels of load cell module input
- ◆ 11 bits + 1 sign bit resolution, accuracy: $\pm 1\%$ full scale
- ◆ Conversion speed : 1CH / 2 scan-time
- ◆ Number of occupied I/O points : None
- ◆ Dimensions: C type / Weight (NW): 138gw

Item	Type A	Type B
Rated output voltage	10mV/10V	20mV/10V
Resolution	11 bits	11 bits
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Power supply	5VDC, 40mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)	
Applicable PLC	J1n, J2n series PLC	

- J1n2LD



- ◆ This module provide 2 channels of load cell module input
- ◆ 11 bits + 1 sign bit resolution, accuracy: $\pm 1\%$ full scale
- ◆ Conversion speed : 1CH / 2 scan-time
- ◆ Number of occupied I/O points : None
- ◆ Dimensions: C type / Weight (NW): 179gw

Item	Type A	Type B
Rated output voltage	10mV/10V	20mV/10V
Resolution	11 bits	11 bits
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Power supply	5VDC, 50mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)	
Applicable PLC	J1n, J2n series PLC	

- J1s2PT



- ◆ Platinum temperature sensor (Pt100, 3 wire type) input, 2 channels
- ◆ 11 bits + 1 sign bit resolution, accuracy: $\pm 1\%$ full scale
- ◆ Conversion speed : 1CH / 2 scan-time
- ◆ Number of occupied I/O points : None
- ◆ Dimensions: C type / Weight (NW): 144gw

Item	Centigrade (°C)	Fahrenheit (°F)
Analog input signal	1mA sensor : 100 Ω Pt100 (3850PPM / °C)	
Resolution	0.2 to 0.3°C	0.36 to 0.54°F
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Power supply	5VDC, 40mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)	
Applicable PLC	J1n, J2n series PLC	

- J1n2PT



- ◆ Platinum temperature sensor (Pt100, 3 wire type) input, 2 channels
- ◆ 11 bits + 1 sign bit resolution, accuracy: $\pm 1\%$ full scale
- ◆ Conversion speed : 1CH / 2 scan-time
- ◆ Number of occupied I/O points : None
- ◆ Dimensions: C type / Weight (NW): 180gw

Item	Centigrade (°C)	Fahrenheit (°F)
Analog input signal	1mA sensor : 100 Ω Pt100 (3850PPM / °C)	
Resolution	0.2 to 0.3°C	0.36 to 0.54°F
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Power supply	5VDC, 50mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)	
Applicable PLC	J1n, J2n series PLC	

Analog Module

- J1s2TC



- ◆ K or J type thermocouple temperature sensor input
- ◆ 11 bits + 1 sign bit resolution, accuracy: $\pm 1\%$ full scale
- ◆ Conversion speed : 1CH / 2 scan-time
- ◆ Power supply : 5VDC, 40mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)
- ◆ Dimensions: C type / Weight (NW): 138gw

Item	Centigrade (°C)	Fahrenheit (°F)
Analog input signal	K: -100 to 1200°C, J: -100 to 600°C	K: -148 to 2192°F, J: -148 to 1112°F
Resolution	K: 0.4°C, J: 0.3°C	K: 0.72°F, J: 0.54°F
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Number of occupied I/O points	None	
Applicable PLC	J1n, J2n series PLC	

- J1n4TC Analog Input Block for Thermocouple Temperature Sensor



- ◆ K or J type thermocouple temperature sensor input
- ◆ Centigrade (°C) or Fahrenheit (°F) measurement can be changed
- ◆ Four input channels
- ◆ Power supply : 5VDC, 50mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)
- ◆ Dimensions : C type / Weight (NW) : 180gw

- J1n8TC Analog Input Block for Thermocouple Temperature Sensor



- ◆ K or J type thermocouple temperature sensor input
- ◆ Centigrade (°C) or Fahrenheit (°F) measurement can be changed
- ◆ Eight input channels
- ◆ Power supply : 5VDC, 50mA (digital circuit power from main unit), 24VDC $\pm 10\%$, 100mA (analog circuit)
- ◆ Dimensions : B type / Weight (NW) : 250gw

Item	Centigrade (°C)	Fahrenheit (°F)
Analog input range	K: -100 to 1200°C, J: -100 to 600°C	K: -148 to 2192°F, J: -148 to 1112°F
Resolution	K: 0.4°C, J: 0.3°C	K: 0.72°F, J: 0.54°F
Overall accuracy	$\pm 0.5\%$ (full scale 1°C)	
Conversion speed	100ms x Number of used channel	
Isolation	Photo-coupler isolation between analog and digital circuits DC/DC converter isolates main unit power, no isolation between analog channels	
Number of occupied I/O points	None	
Applicable PLC	J1n, J2n series PLC	

Communication Module

- Jn485LNK



- ◆ Isolation : Photo-coupler isolation
- ◆ CPU Link, 1 : N network
- ◆ Applicable PLC : J1n, J2n series PLC
- ◆ Dimensions: C type
- ◆ Weight (NW) : 191gw

Item	Specification
Transmission standard	RS422/485
Maximum transmission distance	RS422/485 : 500m
LED indicators	SD, RD
Communication method	Half duplex
Baud rate	1200 / 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200
Power supply external	24V DC $\pm 10\%$, 40mA
Power supply internal	5V DC, 80mA is supplied from the main unit

Communication Module

- EX232BD



- ◆ Can communicate with personal computer, bar code reader, operation panel
- ◆ Can use a dedicated protocol to communicate with RS232C equipment
- ◆ Applicable PLC : J1n, J2n series PLC
- ◆ Dimensions (W) x (L) x (H) : 47mm x 89mm x 29mm
- ◆ Weight (NW) : 51gw

Item	Specification
Transmission standard	RS232C
Maximum transmission distance	15m
LED indicators	RXD, TXD
Communication method	Half duplex
Isolation	No isolation
Power supply-Internal	5V DC 20mA is supplied as the power from the main unit

- EX485BD



- ◆ Can use a dedicated protocol to communicate with multi RS422/485 equipments
- ◆ CPU Link, N : N network
- ◆ Applicable PLC : J1n, J2n series PLC
- ◆ Dimensions (W) x (L) x (H) : 47mm x 89mm x 29mm
- ◆ Weight (NW) : 48gw

Item	Specification
Transmission standard	RS422/485
Maximum transmission distance	50m
LED indicators	SD, RD
Communication method	Half duplex
Isolation	No isolation
Power supply-Internal	5V DC 30mA is supplied as the power from the main unit

- Jn232ADP



- ◆ Can communicate with personal computer, bar code reader, operation panel
- ◆ Can use a dedicated protocol to communicate with RS232C equipment
- ◆ Applicable PLC : J1n, J2n series PLC
- ◆ Dimensions : C type
- ◆ Weight (NW) : 138gw

Item	Specification
Transmission standard	RS232C
Maximum transmission distance	50m
LED indicators	RXD, TXD
Communication method	Half duplex
Isolation	Photo-coupler isolation
Power supply-external	24V DC \pm 10%, 50mA
Power supply-Internal	5V DC, 60mA is supplied from the main unit

- Jn485ADP



- ◆ Can use a dedicated protocol to communicate with multi RS422/485 equipments
- ◆ CPU Link, N : N network
- ◆ This is an isolation type adapter for connect with inverter, servo driver or long distance equipment
- ◆ Applicable PLC : J1n, J2n series PLC
- ◆ Dimensions : C type / Weight (NW) : 140gw

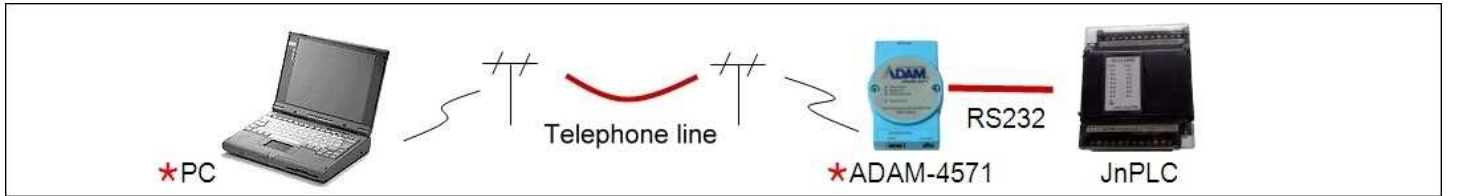
Item	Specification
Transmission standard	RS422/485
Maximum transmission distance	500m
LED indicators	SD, RD
Communication method	Half duplex
Isolation	Photo-coupler isolation
Power supply-external	24V DC \pm 10%, 50mA
Power supply-Internal	5V DC, 60mA is supplied from the main unit

Communications

◆ Programming



◆ Ethernet



◆ Connecting with Peripheral Device



System Configuration



Analogue module

Js2AD	2CH analog input module
Js2TC	2CH Thermocouple
Js2LD	2CH Load Cell
Js2PT	2CH PT100

Communication module

EX232BD	RS232 without photo-coupler
EX485BD	RS422/485 without photo-coupler
Jn232ADP	RS232 with photo-coupler
Jn485ADP	RS422/485 with photo-coupler

J1n series main unit

J1n24MR	16IN/08OUT Relay output
J1n24MT	16IN/08OUT Transistor output
J1n32MR	16IN/16OUT Relay output
J1n32MT	16IN/16OUT Transistor output
J12A32MT	16IN/16OUT Transistor output
J14A32MT	16IN/16OUT Transistor output

J2n series main unit

J2n24MR	16IN/08OUT Relay output
J2n24MT	16IN/08OUT Transistor output
J2n32MR	16IN/16OUT Relay output
J2n32MT	16IN/16OUT Transistor output
J21A32MT	16IN/16OUT Transistor output
J22A32MT	16IN/16OUT Transistor output
J24A32MT	16IN/16OUT Transistor output
J22B32MT	16IN/16OUT Transistor output
J24B32MT	16IN/16OUT Transistor output

Expansion I/O module

J1s08EX	08IN/00OUT
J1s08ER	04IN/04OUT Relay
J1s08ET	04IN/04OUT Transistor
J1s08EYR	00IN/08OUT Relay
J1s08EYT	00IN/08OUT Transistor
J1n16EX	16IN/00OUT
J1n16ER	08IN/08OUT Relay
J1n16ET	08IN/08OUT Transistor
J1n16EYR	00IN/16OUT Relay
J1n16EYT	00IN/16OUT Transistor
J1n24ER	16IN/08OUT Relay
J1n24ET	16IN/08OUT Transistor
J1n32ER	16IN/16OUT Relay
J1n32ET	16IN/16OUT Transistor

Analogue module

J1n2DA	Analog output module
J1n4AD	4CH analog input module
J1n8AD	8CH analog input module
J1n4TC	4CH Thermocouple
J1n8TC	8CH Thermocouple
J1n2LD	2CH Load Cell
J1n2PT	2CH PT100

Positioning module

Jn1PG	Positioning module
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Signal conversion module

JnCTOL	Open Collector TO Line driver
JnLTOC	Line driver TO open Collector

Communication module

Jn485LNK	RS422/RS485 with photo-coupler
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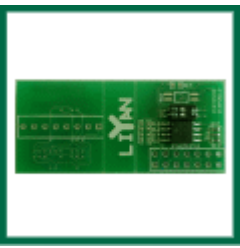
Wire expansion module

JnNEXT-50	50cm length
JnNEXT-80	80cm length

Power expansion module

JnPower-E	Power expansion
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Memory Board

JnRTC01		<ul style="list-style-type: none"> ◆ EEPROM Memory card (16K steps) ◆ Retrofitting to the host of the Jn series of 24 points 	EX1RTC1-4	<ul style="list-style-type: none"> ◆ Multi-mode EEPROM (8000 steps) ◆ For more than 24 points of J1n, J2n series main unit used. ◆ SW-2 OFF / SW-1 OFF: execute internal EEPROM program, not execute copy function ◆ SW-2 ON / SW-1 OFF: execute external EEPROM program, not execute copy function ◆ SW-2 OFF / SW-1 ON: copy EEPROM program of RTC1-4 and content of D register to EEPROM of CPU ◆ SW-2 ON / SW-1 ON: copy content of D register in EEPROM of CPU to EEPROM of RTC1-4
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Stepping Motor Driver



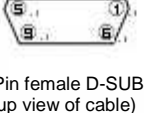
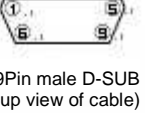










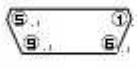





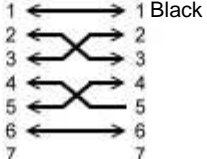

- PMC2615-16



- ◆ PWM Digital circuit construction, control accurately, running smoothly.
- ◆ 200, 400, 800, 1600 Stepping accuracy select.
- ◆ Build-in motor stop automatically reduce current function.
- ◆ DC 12VDC ~ 36VDC power source, wiring conveniently.
- ◆ Compatible with all 2-phase stepping motor in the market.
- ◆ Weight (NW): 200gw Dimensions(L)x(W)x(H): 100mm x 68mm x 37mm

Item	Specifications
Power source	Within DC12V to DC36V, more than 4A
Drive method	PWM fixed current unipolar
Maximum output current	1.5A / Phase
Accuracy	Can set 200, 400, 800, 1600 steps / Per motor turning circumference
Power source signal	Clockwise pulse, Counterclockwise pulse, stop trigger signal, signal input use photo-coupler, signal input impedance less than 220Ω, DC 20V, 20 mA
Adjustable function	Motor performance current
DIP switch	ACD automatically reduce current function. When motor stop, it can reduce to stop holding current automatically within 0.2sec 1P / 2P power source pulse input method selection, MS1, MS2 motor accuracy selection

Download Program Cable

	    
EXCAB-PC23201 Length : 1m	<p>1 ←→ 1</p> <p>2 ←→ 2 TXD</p> <p>3 ←→ 3 RXD</p> <p>4 ←→ 4</p> <p>5 ←→ 5 SG</p> <p>6 ←→ 6</p> <p>7 ←→ 7</p> <p>8 ←→ 8</p> <p>9 ←→ 9</p>
	  <p>1.VCC</p> <p>2.D-</p> <p>3.D+</p> <p>4.GND</p>  <p>2.RD+</p> <p>1.RD-</p> <p>7.TD+</p> <p>4.TD-</p> <p>8Pin male Mini Din (up view of cable)</p>  
EXCAB-PC42202 Length : 2m	
	   <p>8.TD+ ←→ 2.RD+</p> <p>9.TD- ←→ 1.RD-</p> <p>6.RD+ ←→ 7.TD+</p> <p>7.RD- ←→ 4.TD-</p> <p>9Pin female D-SUB (up view of cable)</p> <p>8Pin male Mini Din (up view of cable)</p>  
EXCAB-EP002 Length : 1m	
	   <p>1 ←→ 1 Black</p> <p>2 ←→ 2</p> <p>3 ←→ 3</p> <p>4 ←→ 4</p> <p>5 ←→ 5</p> <p>6 ←→ 6</p> <p>7 ←→ 7</p>
EXCAB-Link01 Length : 20cm	<p>* Link mode: can't be more than 50cm. If it is more than 50cm, have to use EX485BD or EX485ADP.</p>

Main Unit

Number of I/O points	—		J1n(expandable)		J2n(expandable)		xxIn/xxOut	Package	Wiring form
	AC Power DC Input		AC Power DC Input		AC Power DC Input				
	Relay Type	Transistor	Relay Type	Transistor	Relay Type	Transistor			
14	—	—	—	—	—	—	08IN / 06OUT	B	Pluggable terminal
16	—	—	—	—	—	—	08IN / 08OUT	B	Pluggable terminal
24			J1n24MR	J1n24MT	J2n24MR	J2n24MT	16IN / 08OUT	A	Pluggable terminal
32			J1n32MR	J1n32MT	J2n32MR	J2n32MT	16IN / 16OUT	A	Pluggable terminal
32	EX200MP (Linear & Circular Interpolation module / Transistor output)						16IN / 16OUT	A	Pluggable terminal

I/O points	J1n				xxIn/xxOut	Package	Wiring form
	DC input						
	Relay type		Transistor				
16	J1n16MR-D		J1n16MT-D		08IN / 08OUT	B	Pluggable terminal

Expansion I/O Module




I/O points	DC Input / Relay type	DC Input / Transistor type	xxIn/xxOut	Package	Wiring form
08	J1s08EX	—	08IN / 00OUT	C	Pluggable terminal
	J1s08ER	J1s08ET	04IN / 04OUT	C	Pluggable terminal
	J1s08EYR	J1s08EYT	00IN / 08OUT	C	Pluggable terminal
16	J1n16EX	—	16IN / 00OUT	B	Pluggable terminal
	J1n16ER	J1n16ET	08IN / 08OUT	B	Pluggable terminal
	J1n16EYR	J1n16EYT	00IN / 16OUT	B	Pluggable terminal
24	J1n24ER	J1n24ET	16IN / 08OUT	A	Pluggable terminal
32	J1n32ER	J1n32ET	16IN / 16OUT	A	Pluggable terminal

Special Module

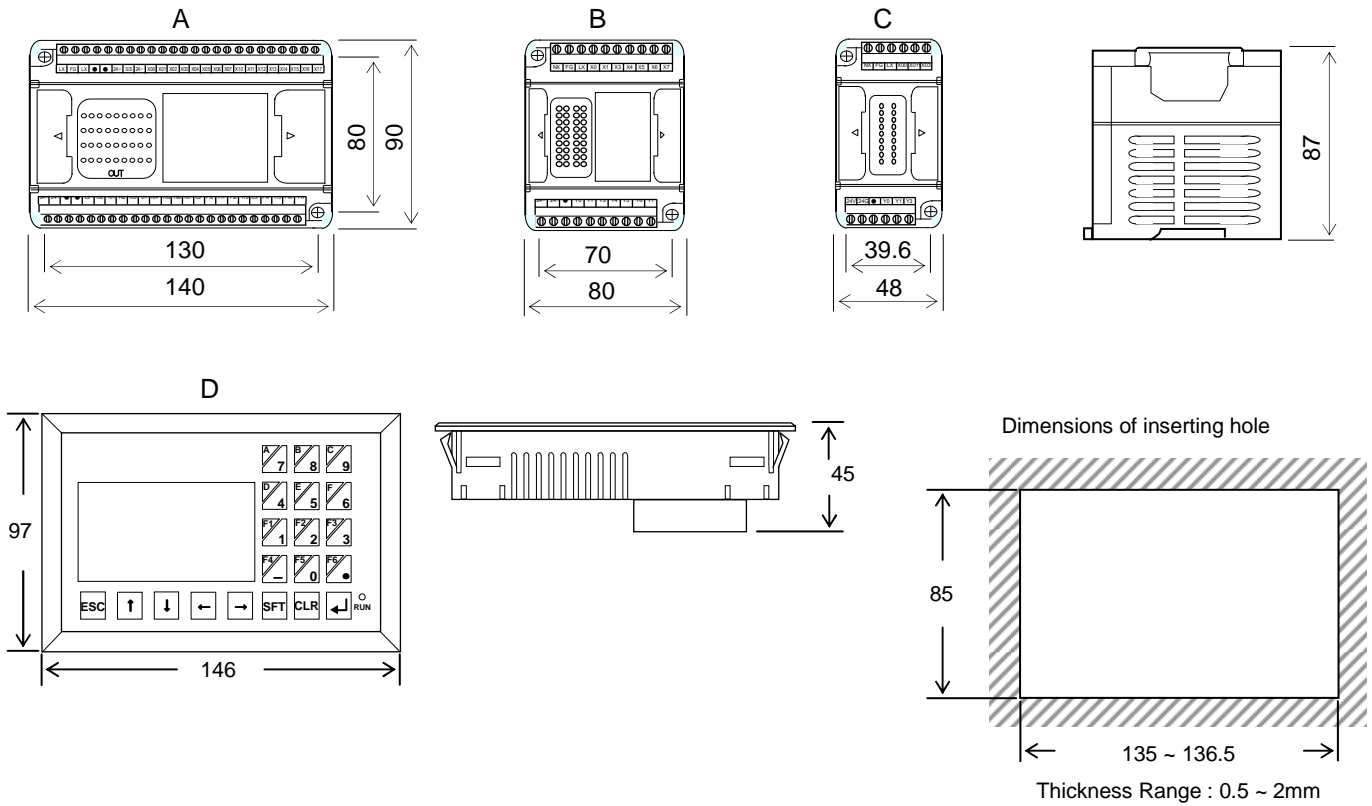
Item	Description	Occupy point	Package	Wiring form
ExRM0808R	Remote I/O module (Relay output, 08IN/08OUT)	—	B	Pluggable terminal
ExRM0808T	Remote I/O module (Transistor output, 08IN/08OUT)	—	B	Pluggable terminal
JnNEXT-50	Wire Expansion Module – 50cm length	—	C	Pluggable terminal
JnNEXT-80	Wire Expansion Module – 80cm length	—	C	Pluggable terminal
JnPower-E	Power Expansion Module	—	B	Pluggable terminal
Ex232BD	RS232 interface module (without photo-coupler)	—	N	Pluggable terminal
Ex485BD	RS422/485 interface module (without photo-coupler)	—	N	Pluggable terminal
Jn232ADP	RS232C interface module (with photo-coupler)	—	C	Pluggable terminal
Jn485ADP	RS422/485 interface module (with photo-coupler)	—	C	Pluggable terminal
Jn485LNK	RS422/485 interface module (with photo-coupler)	—	C	Pluggable terminal
J1n2DA	Analog output module	00IN/ 16OUT	C	Pluggable terminal
J1s2AD	2CH Analog input module (connect to 2 nd comm. port)	—	C	Pluggable terminal
J1s2TC	2CH Thermocouple (connect to 2 nd comm. port)	—	C	Pluggable terminal
J1s2LD	2CH Load Cell (connect to 2 nd comm. port)	—	C	Pluggable terminal
J1s2PT	2CH PT100 (connect to 2 nd comm. port)	—	C	Pluggable terminal
J1n4AD	4CH Analog input module	—	C	Pluggable terminal
J1n4TC	4CH Thermocouple	—	C	Pluggable terminal
J1n8AD	8CH Analog input module	—	B	Pluggable terminal
J1n8TC	8CH Thermocouple	—	B	Pluggable terminal
J1n2LD	2CH Load Cell	—	C	Pluggable terminal
J1n2PT	2CH PT100	—	C	Pluggable terminal
J1n1PG	Positioning unit	—	C	Pluggable terminal
J1nCTOL	Positioning unit for special function	—	C	Pluggable terminal
J1nLTOC	open Collector TO Line driver	—	C	Pluggable terminal
ExRM0808R	Line driver TO open Collector	—	C	Pluggable terminal

N : no housing J1n : expandable J2n : expandable

Spare Part

	EXTRMA07 (Transistor)		EXTRMA08 (Transistor)		NY24W-K (Relay)
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■ Dimension (unit : mm)



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