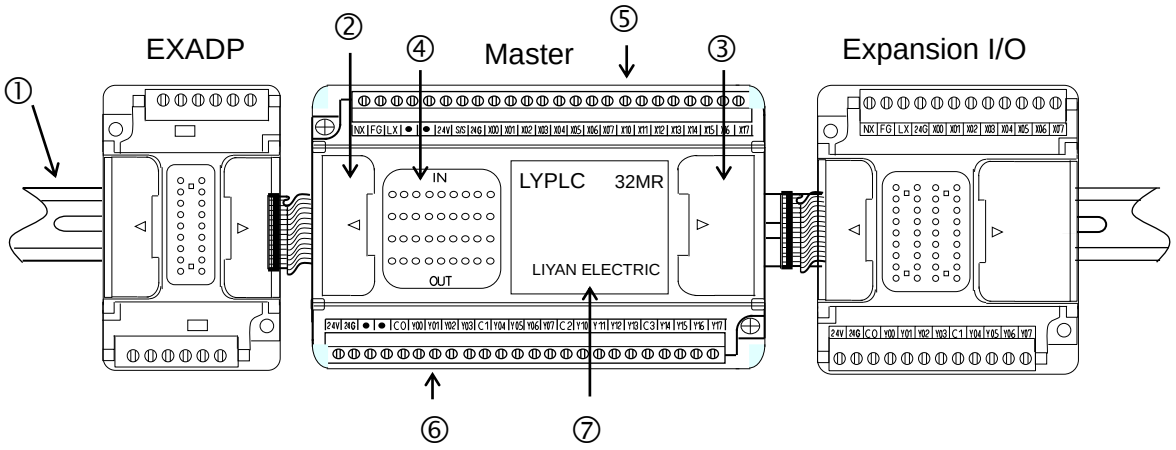
Index

◎ Master Unit & Expansion Unit

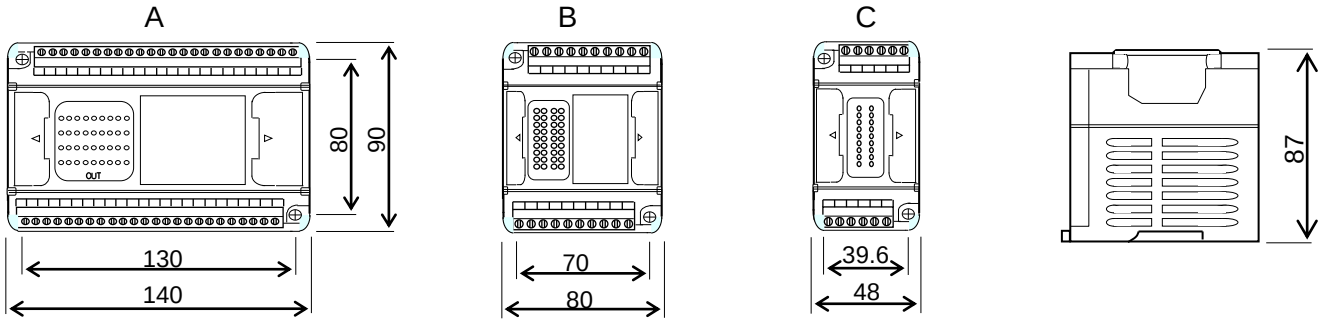


- Master unit, Expansion I/O unit, Expansion module and EXADP communication module all can assembly to ① (35mm)
- Open ③ connector cover, connected master unit and expansion i/o unit or expansion module.
- Open ② connector cover, connected master unit and EXADP communication module.
- ④ is the LED monitor of input relay, output relay, power, run status and error status.
- ⑤ is the terminal of input relay, ⑥ is the terminal of output relay.
- ⑦ is EEPROM card.

J □□□ 32 M R - □

- No Mark:AC110/220V, D : DC24V
- Type of output: R : Relay, T : Transistor, X : All input, Y : All output
- M: Master , E: Expansion
- I/O points (24,32)
  3n, 2n can expansion(with axes function) ; 1n can expansion ; 1s can't expansion
- 22A(32A) : two axes, 24A(34A): four axes, (without Interpolation function with floating)
  22B(32B) : two axes ; 24B(34B) : four axes(with Interpolation with floating)
- Series name

◎ Dimension (mm)

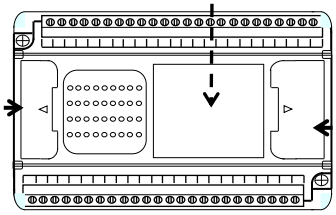


◎ Configuration of systems

Memory board

JnRTC11	Multi-mode EEPROM (8K steps)

*This board is only suitable for 24 or 32 points of main unit



Main unit – J1n series

J1n32MR	J1n32MT

Main unit – J2n series

J2n32MR	J22B30ML
J2n32MT	J24B28ML
J22A32MT	J22A30ML
J24A32MT	J24A28ML
J22B32MT	J24B32MT

Main unit – J3n series

J32A32MT	J32B30ML
J34A32MT	J34B28ML
J32B32MT	J32A30ML
J34A28ML	J34B32MT

Analogue module

J1s2AD	2CH Analog input
J1s2TC	2CH Thermocouple
J1s2LD	2CH Load cell
J1s2PT	2CH PT100

Communication module – without photo-coupler

JnRS422BD2	RS422/485 interface

Communication module – with photo-coupler

Jn232ADP	RS232C interface
Jn485ADP	RS422/485 interface

Remote I/O module

EXRM0808R	08IN / 08OUT Relay output
EXRM0808T	08IN / 08OUT Transistor output

*This module transfer data with main unit through communication method.

Extension I/O module – not expandable

J1s08EX	08IN / 00OUT
J1s08ER	04IN / 04OUT Relay output
J1s08ET	04IN / 04OUT Transistor output
J1s08EYR	00IN / 08OUT Relay output
J1s08EYT	00IN / 08OUT Transistor output

Extension I/O module – expandable

J1n16EX	16IN / 00OUT
J1n16ER	08IN / 08OUT Relay output
J1n16ET	08IN / 08OUT Transistor output
J1n16EYR	00IN / 16OUT Relay output
J1n16EYT	00IN / 16OUT Transistor output
J1n24ER	16IN / 08OUT Relay output
J1n24ET	16IN / 08OUT Transistor output
J1n32ER	16IN / 16OUT Relay output
J1n32ET	16IN / 16OUT Transistor output

Analogue module

J1n2DA	Analog output
J1n4AD	4CH Analog input
J1n8AD	8CH Analog input
J1n4TC	4CH Thermocouple
J1n8TC	8CH Thermocouple
J1n2PT	2CH PT100

Position module

J1n1PG	Position module
J2n1PG	Position module
J1n2PT	Position module for special function

Signal conversion module

J1nCTOL	open Collector TO Line driver
J1nLTOC	Line driver TO open Collector

Wire extension module

J1nNEXT-50	Wire : 50cm length
J1nNEXT-80	Wire : 80cm length

Power extension module

JnPower-E	Input: 100~240VAC 50/60Hz Output: DC24V±15% 500mA

Communication module

Jn485LNK	RS422/485 interface

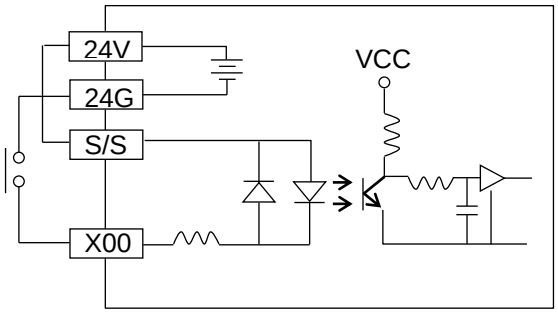
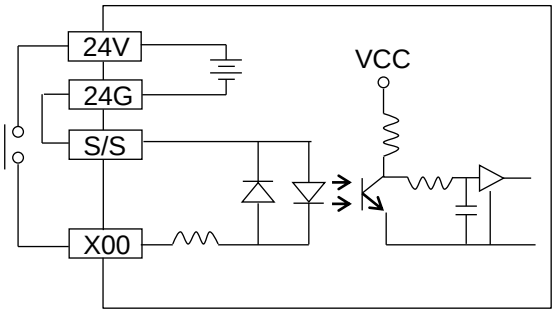
◎ Performance Specification – J series

ITEM		J2	J3
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.	Basic instruction 10ns, Applied instruction from 1us.
Programming language		Relay symbolic language + Step ladder	
Program capacity / memory		16000 steps (built in EEprom)	64000 steps (built in FRAM)
Number of instruction		Basic instruction:27, Step ladder instruction:2, Applied instruction:107	Basic instruction:27, Step ladder instruction:2, Applied instruction:198
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)	M000 ~ M499 (FRAM backup)
	General	M500 ~ M1535 (no backup)	M500 ~ M7679 (no backup)
	Special	M8000 ~ M8255 (no backup)	M8000 ~ M8511 (no backup)
State Relay (S)	Latched	S000 ~ S499 (EEprom backup)	S000 ~ S499 (FRAM backup)
	General	S500 ~ S999 (no backup)	S500 ~ S4095 (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)	4 points, T246 ~ T249 (FRAM backup)
	100 ms integration	6 points, T250 ~ T255 (EEPROM backup)	6 points, T250 ~ T255 (FRAM backup)
	Analog	2 points (Defined by user)	
Counter (C)	16bits Counter	Latched C00 ~ C31 (EEprom backup)	Latched C00 ~ C31 (FRAM backup)
		General C32 ~ C199	
	32bits Counter	General C200 ~ C215	
		Latched C216 ~ C255 (EEprom backup)	Latched C216 ~ C255 (FRAM backup)
	High Speed Counter	6 points : X0 ~ X5, 1phase1count 100KHz, 3 AB phase 100KHz	8 points : X0 ~ X7, 1phase1count 100KHz, 4 AB phase 100KHz
Data Register	Latched	D000 ~ D255 (EEprom backup)	D000 ~ D255 (FRAM backup)
	General	D256 ~ D7999 (can used FNC(12) MOV stored at EEPROM)	D256 ~ D7999 (can used FNC(12) MOV stored at FRAM)
	Special	D8000 ~ D8255 (no backup)	D8000 ~ D8511 (no backup)
Pulse	Open Collector	100Kpps	
	Line Driver	400Kpps	
Number Of Axes		2 or 4	
Index		V0 ~ V7, Z0 ~ Z7	
Next Routine (N)		N0 ~ N7	
Pointer (P)		P000 ~ P127 (CJ,CALL)	P000 ~ P4095 (CJ,CALL)
Pointer (I) Interrupt (I)		I00x, I10x, I20x, I30x, I40x, I50x (external interrupt), x=1 rising edge, x=0 falling edge	I00x, I10x, I20x, I30x, I40x, I50x, I60x, I70x (external interrupt), x=1 rising edge, x=0 falling edge
		I8nn (timer interrupt), nn=10~99ms	I8nn (timer interrupt), nn=01~99ms
		I010, I020, I030, I040, I050, I060 : High Speed Counter interrupt	
Communication Interface		RS-422(COM1)	RS-422(COM1)
		Option RS-232C/RS-422,RS-485(COM2)	Option RS-232C/RS-422,RS-485(COM2) Option RS-232C/RS-422,RS-485(COM3)
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	
Floating Point	Decimal	$-3.40 \times 10^{38} \sim -1.18 \times 10^{-38}$, 0 , $1.18 \times 10^{-38} \sim 3.40 \times 10^{38}$	
	Binary	$-1.0 \times 2^{128} \sim -1.0 \times 2^{-126}$, 0 , $1.0 \times 2^{-126} \sim 1.0 \times 2^{128}$	

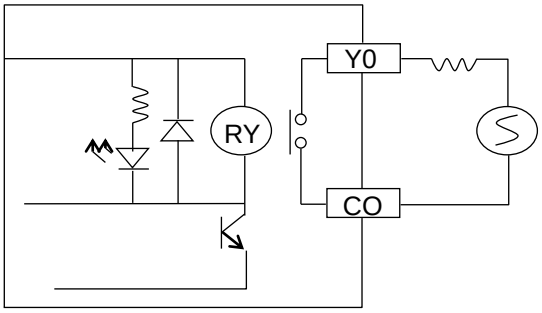
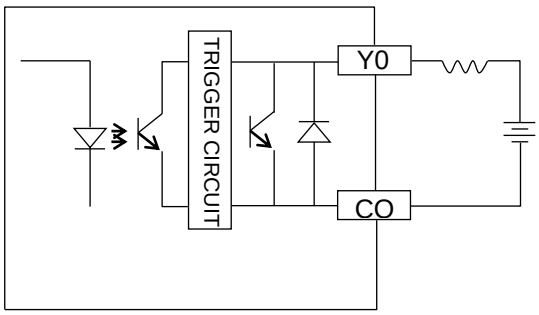
◎ General Specification

Item	Description
Source Voltage	100~240VAC 50/60 Hz
Supply current	24VDC / 800 mA
Momentary power failure	Keep operation in 10 ms
Breakdown voltage	AC1500/1min (between output terminal and frame ground terminal)
Isolation resistance	DC500v/5mΩ
Noise Impedance	Noise voltage: 1000Vp-p, noise width: 1 us
Grounding	Class 3 ground
Ambient Temperature	0 ~ 55°C
Ambient humidity	35 ~ 85 RH (without condensation)
Atmosphere	Must be free from corrosive gasses

◎ Input Specification

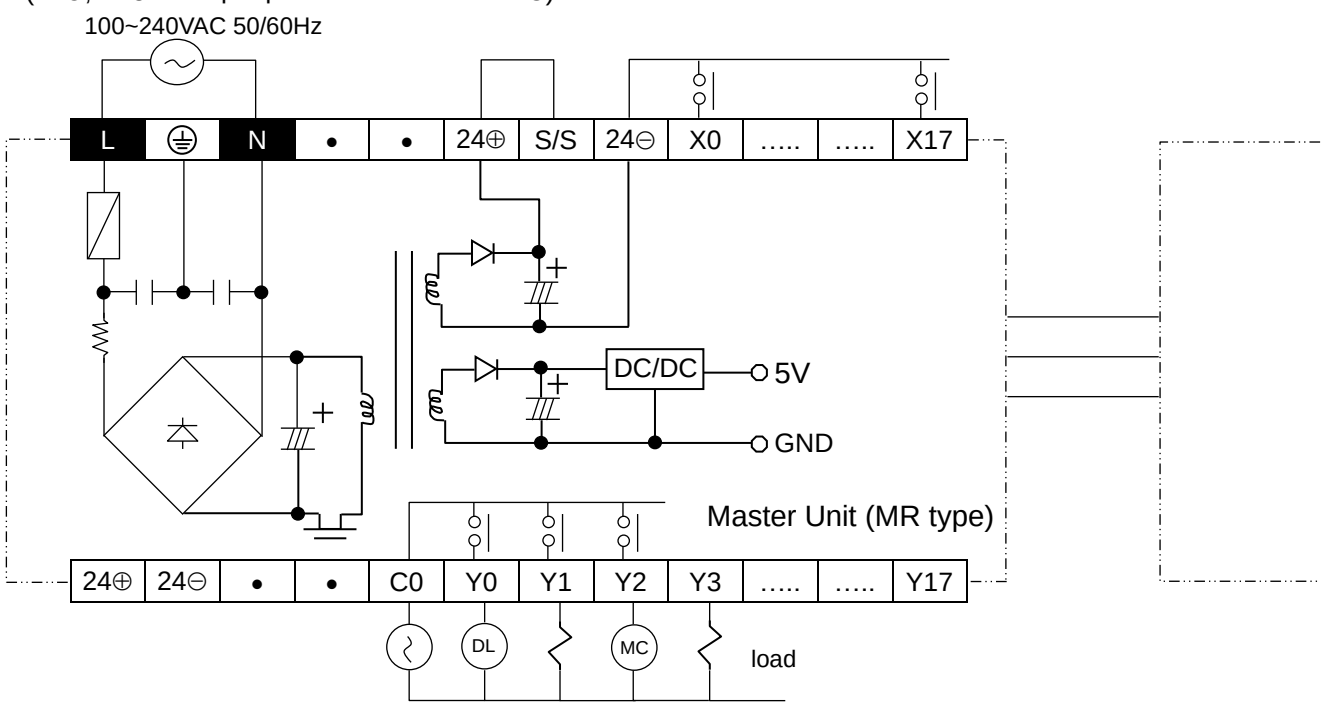
Item	DC input (Sink)	DC input (Source)
Circuit		
Input voltage	DC24V+10%, -15%	DC24V+10%, -15%
Input current	7mA / DC24V	7mA / DC24V
Impedance	3.3 KΩ	3.3 KΩ
Response time	About 10 ms (X00~X07 High Speed)	About 10 ms (X00~X07 High Speed)
Input pattern	No voltage contact or NPN open collector	No voltage contact or PNP open collector
Circuits isolation	Photo coupler	Photo coupler

◎ Output Specification

Item	Relay output	Transistor output
Circuit		
Load voltage	Under AC250V DC30V	DC5V ~ 30V
Rated current	2A / 1 point	0.5A / 1 point
Rated capacity	100W	12W
Response time	About 10ms	Under 1 ms
Circuits isolation	Machine isolation	Photo coupler

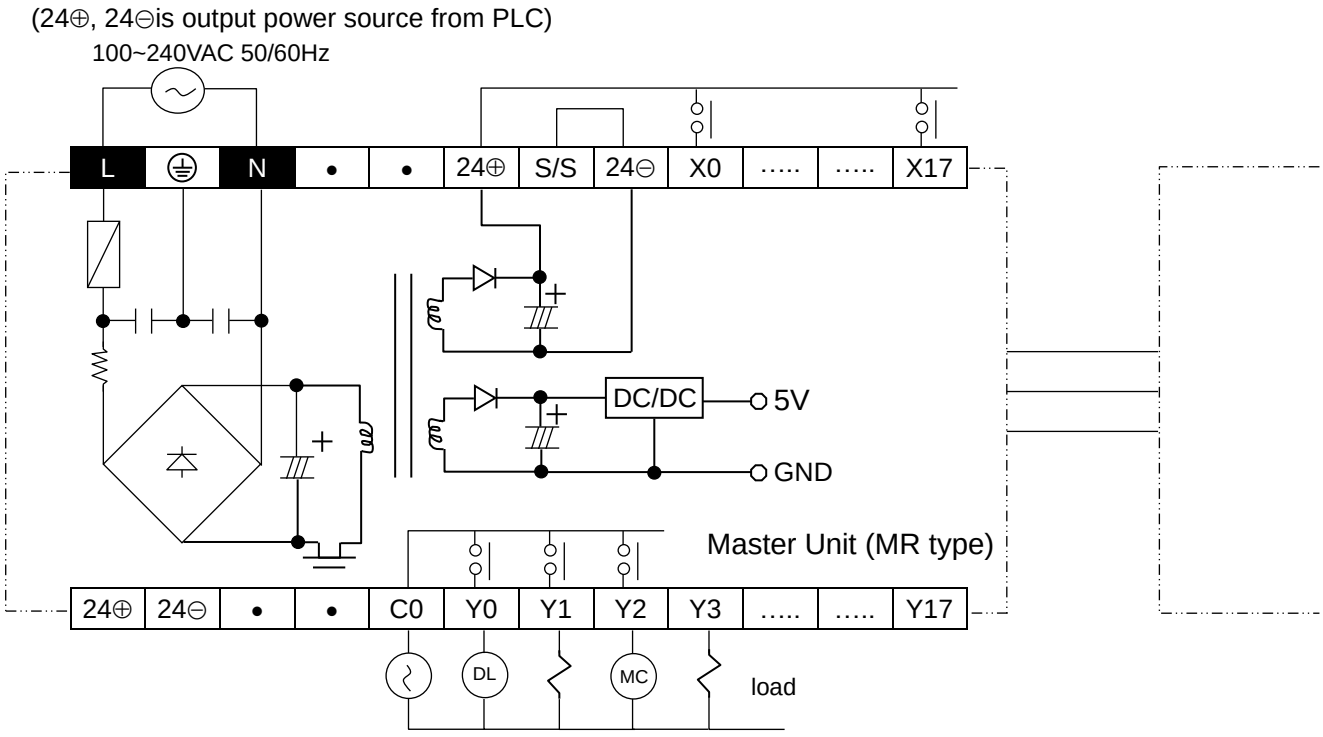
◎ Source Power Wiring Diagram (NPN Mode)

(24⊕, 24⊖ is output power source from PLC)



◎ Source Power Wiring Diagram (PNP Mode)

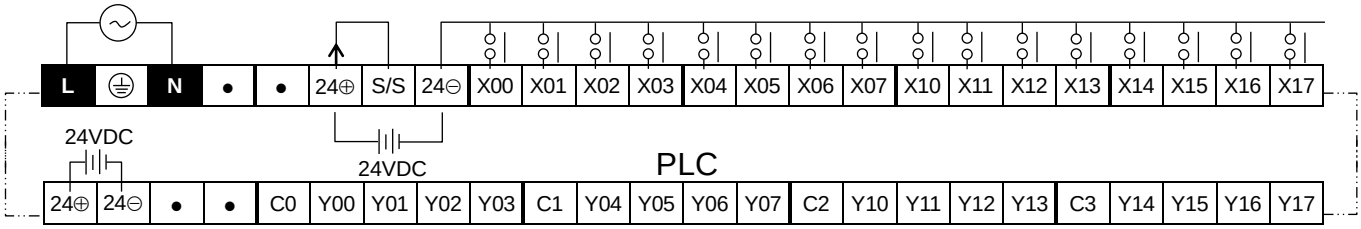
(24⊕, 24⊖is output power source from PLC)



◎ 32MR Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖ → S/S is PNP mode)

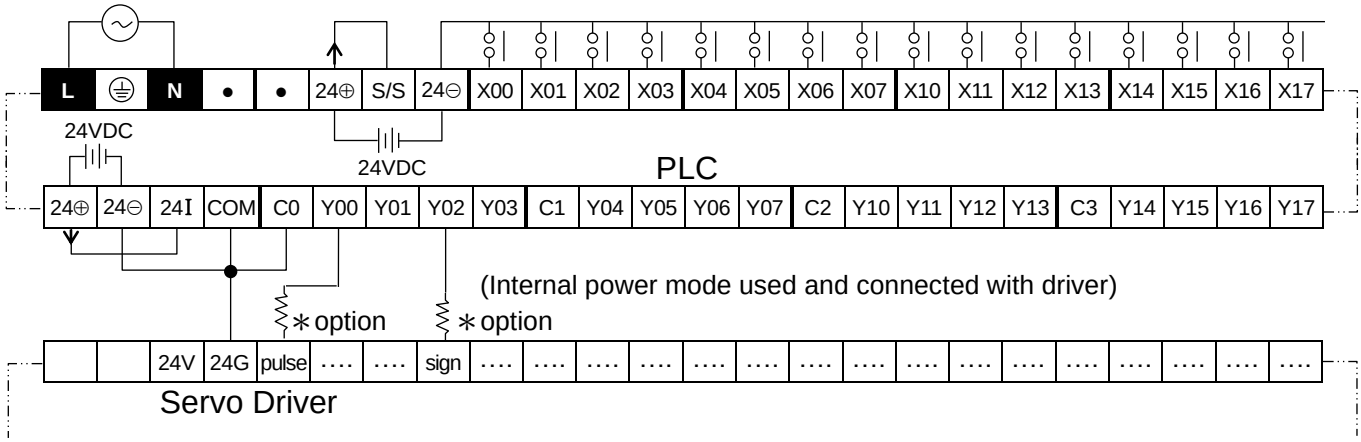
(24⊕, 24⊖ are output power source from PLC)

100~240VAC 50/60Hz



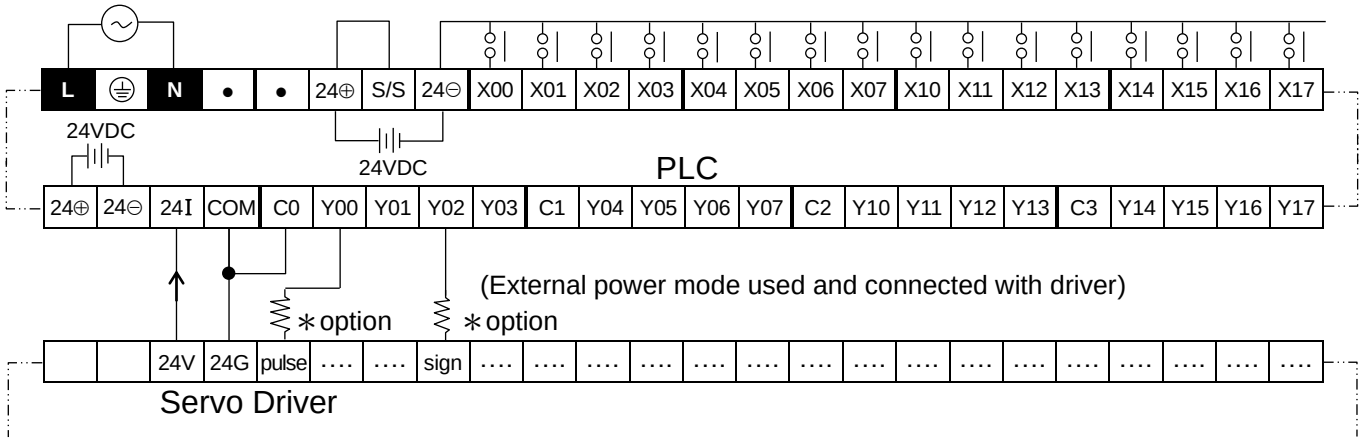
◎ 32MT(32A)Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖ → S/S is PNP mode) (24⊕, 24⊖ are output power source from PLC) (Internal power mode used)

100~240VAC 50/60Hz



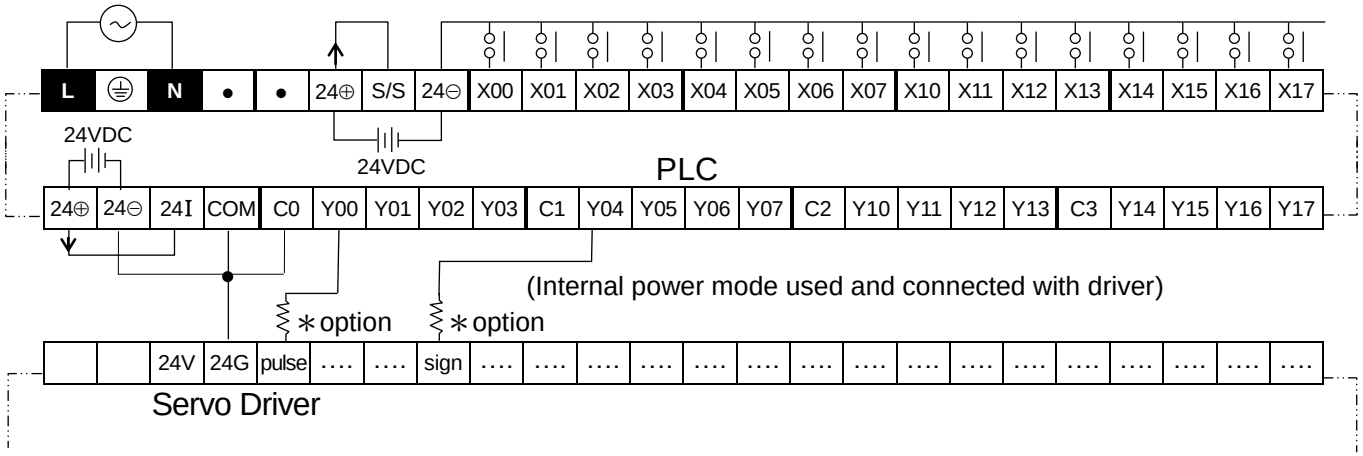
◎ 32MT(32A)Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖ → S/S is PNP mode) (24⊕, 24⊖ are output power source from PLC) (External power mode used)

100~240VAC 50/60Hz



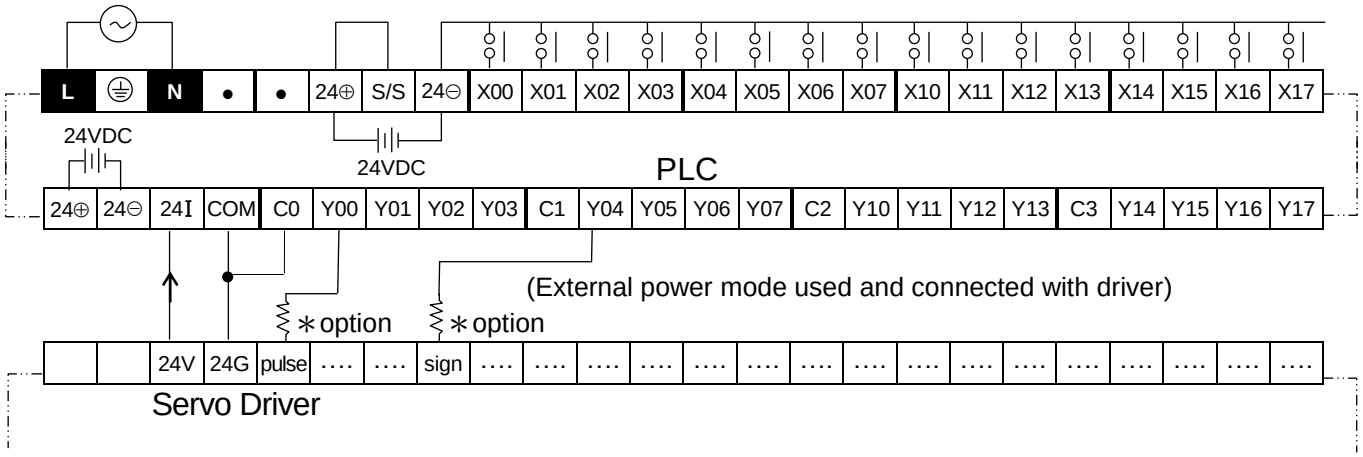
◎ 32MT(34A) Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖→ S/S is PNP mode) (24⊕, 24⊖ are output power source from PLC) (Internal power mode used)

100~240VAC 50/60Hz



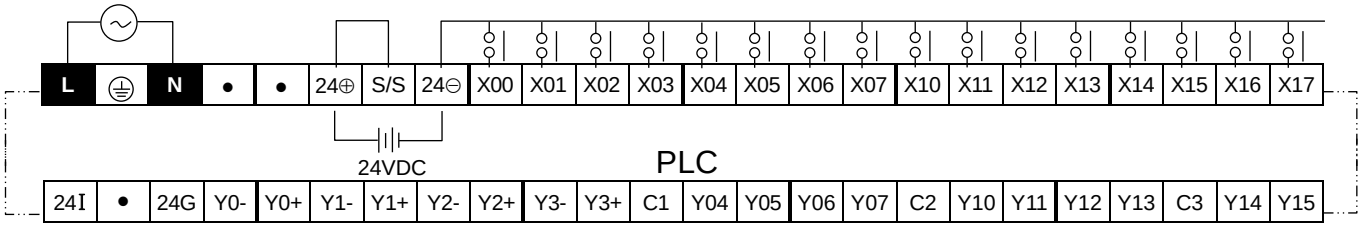
◎ 32MT(34A) Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖→ S/S is PNP mode) (24⊕, 24⊖ are output power source from PLC) (External power mode used)

100~240VAC 50/60Hz



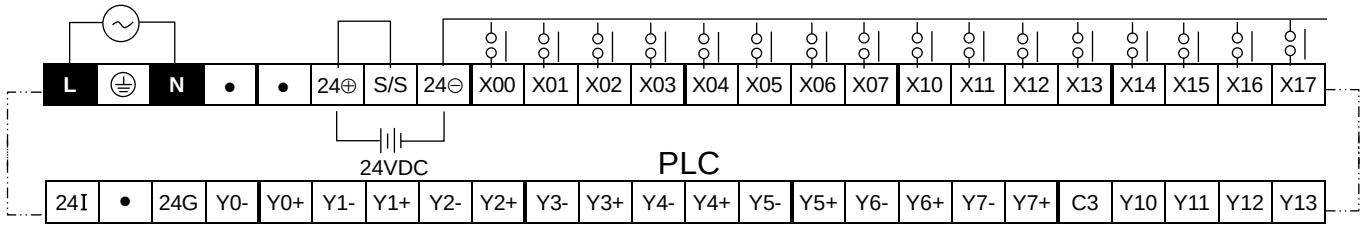
◎ 30ML(32A) Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖→ S/S is PNP mode) (24⊕, 24⊖ are output power source from PLC)

100~240VAC 50/60Hz



◎ 28ML(34A) Type Terminal Signal and Wiring Diagram (24⊕ → S/S is NPN mode, 24⊖→ S/S is PNP mode) (24⊕, 24⊖ are output power source from PLC)

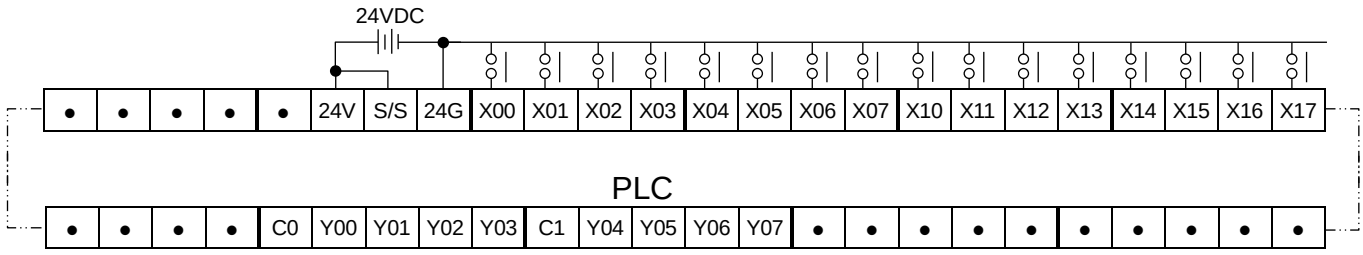
100~240VAC 50/60Hz



◎ 24ER, 24ET Type Terminal Signal and Wiring Diagram

(24V → S/S is NPN mode, 24G → S/S is PNP mode)

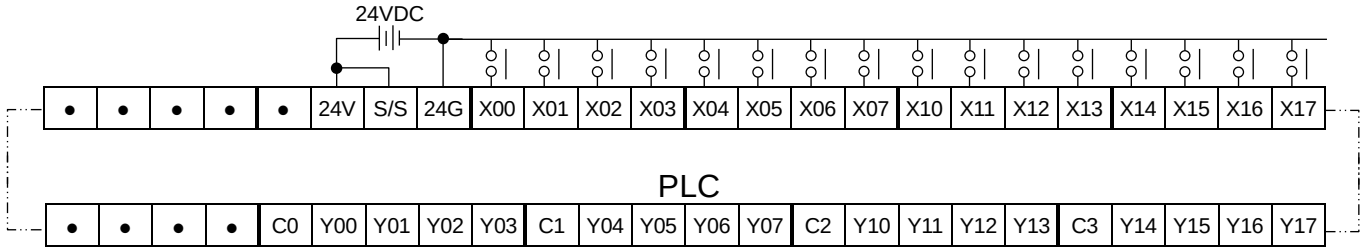
(24V, 24G is external power input terminal)



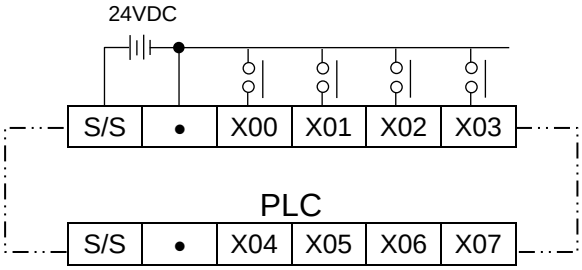
◎ 32ER, 32ET Type Terminal Signal and Wiring Diagram

(24V → S/S is NPN mode, 24G → S/S is PNP mode)

(24V, 24G is external power input terminal)

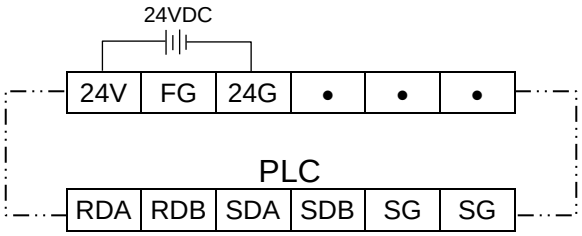


◎ 8EX Type Terminal Signal

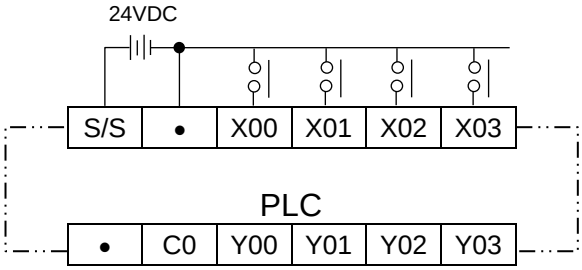


◎ 485ADP, 485LNK Type Terminal Signal

(24V, 24G are external power source input terminal)

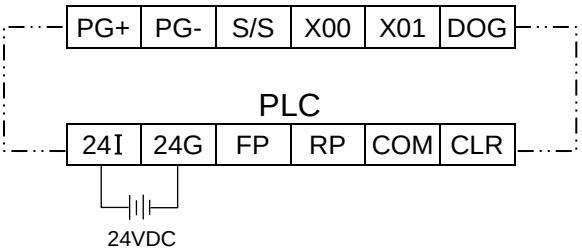


◎ 8ER, 8ET Type Terminal Signal



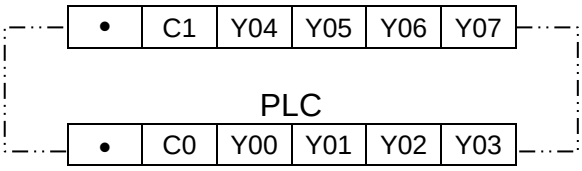
◎ 1PG Type Terminal Signal

(24V → S/S are NPN mode, 24G → S/S are PNP mode)

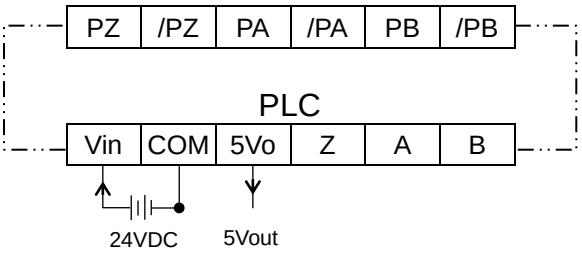


◎ 8EYR, 8EYT Type Terminal Signal

(not need external power source input)

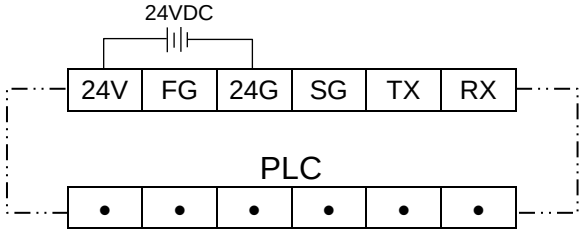


◎ LTOC Type Terminal Signal

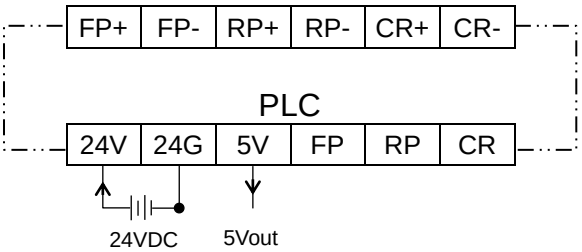


◎ 232ADP Type Terminal Signal

(24V, 24G are external power source input terminal)

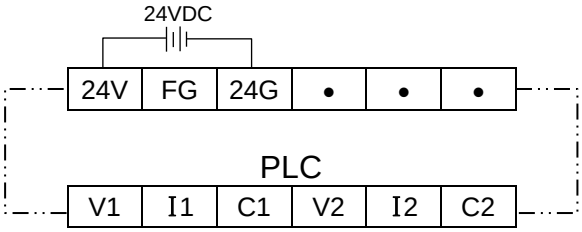


◎ CTOL Type Terminal Signal



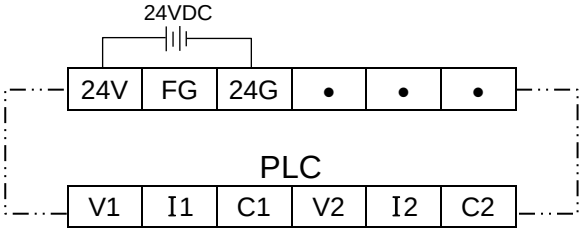
◎ 2DA Type Terminal Signal

(24V, 24G are external power source input terminal)



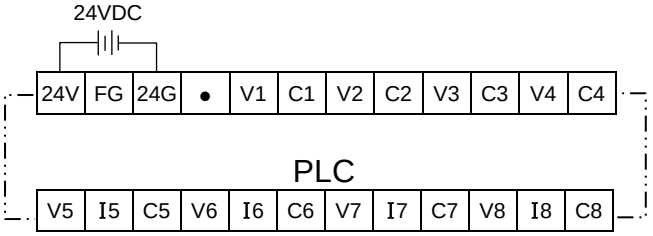
◎ 2AD Type Terminal Signal

(24V, 24G are external power source input terminal)



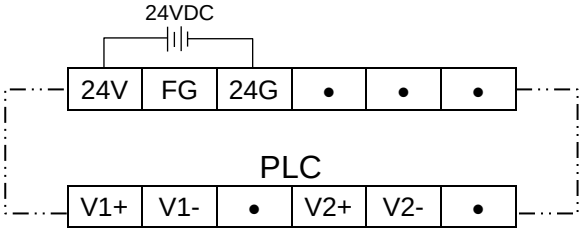
◎ 8AD Type Terminal Signal

(24V, 24G are external power source input terminal)



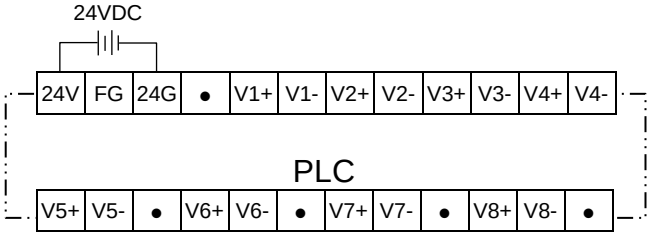
◎ 2TC Type Terminal Signal

(24V, 24G are external power source input terminal)



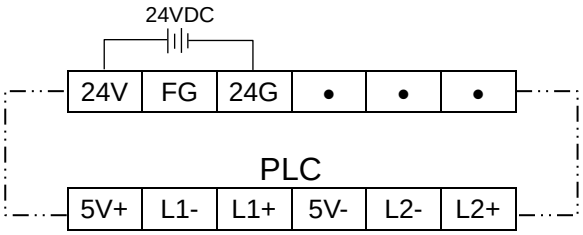
◎ 8TC Type Terminal Signal

(24V, 24G are external power source input terminal)



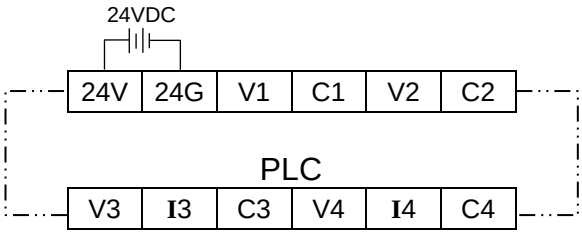
◎ 2LD Type Terminal Signal

(24V, 24G are external power source input terminal)



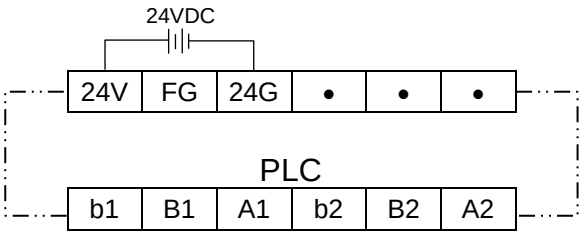
◎ 4AD Type Terminal Signal

(24V, 24G are external power source input terminal)



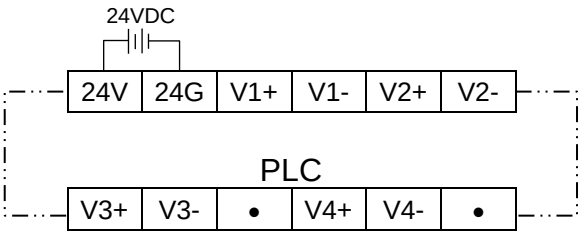
◎ 2PT Type Terminal Signal

(24V, 24G are external power source input terminal)

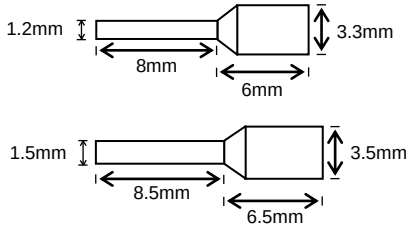


◎ 4TC Type Terminal Signal

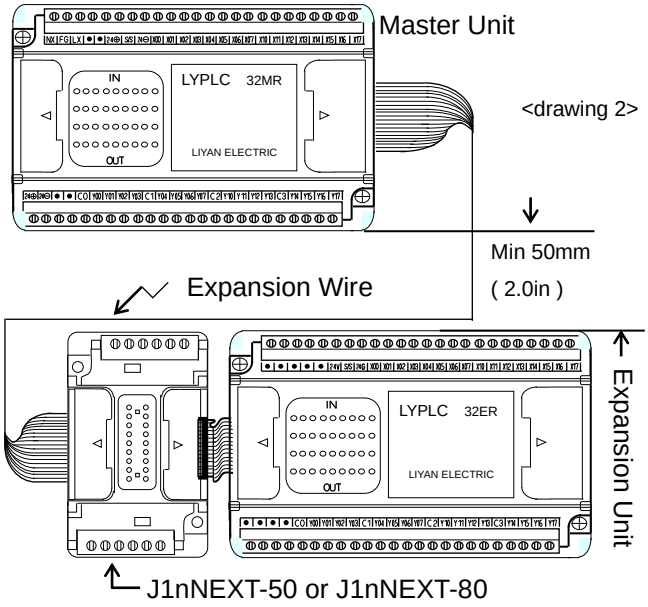
(24V, 24G are external power source input terminal)



◎ Note for Wiring



<drawing 1>



<drawing 2>

- ♦ To use terminal as left drawing 1
- ♦ Don't wire it to the mark (•) of terminal.
- ♦ Can't use the same cable for the signal wire of input and output.
- ♦ Don't put the signal cable of input and output with power cable at the same tube.
- ♦ The expansion module with power device, so can't wire the 24⊕ of expansion module to the 24⊕ of master.
- ♦ There is no power device in expansion I/O unit, so have to connect 24⊕ of master unit to 24V or 24I of expansion I/O unit, otherwise can't input signal.
- ♦ If there is no enough space, but have to arrange it to two lines, then can install wire extension module (50cm length of J1nNEXT-50 or 80cm length of J1nNEXT-80), as left drawing 2.
- ♦ In principle, when system is more than 128 points, then have to install power extension module (JnPower-E), as below drawing.

J1n32MR J1n32ER J1n32ER J1n32ER JnPower-E J1n32ER