

Production Discontinuation of CC-Link/LT Products

■Date of Issue

January 2021 (Ver.B: March 2022)

■Relevant Models

QJ61CL12, LJ61CL12, FX3UC-32MT-LT, FX3UC-32MT-LT-2, FX2N-64CL-M, AJ65SBT-CLB, CL1X4-D1B2, CL2X8-D1B2, CL1Y4-T1B2, CL2Y8-TP1B2, CL1Y4-R1B2, CL1Y4-R1B1, CL1XY4-DT1B2, CL1XY8-DT1B2, CL1XY4-DR1B2, CL1XY8-DR1B2, CL1X4-D1S2, CL2X8-D1S2, CL1Y4-T1S2, CL2Y8-TP1S2, CL2Y8-TPE1S2, CL1X4-D1C3, CL2X8-D1C3V, CL2X16-D1C3V, CL1Y4-T1C2, CL2Y8-TP1C2V, CL2Y16-TP1C2V, CL2XY16-DTP1C5V, CL2X16-D1M1V, CL2X16-D1MJ1V, CL2Y16-TP1M1V, CL2Y16-TP1MJ1V, CL2Y16-TPE1M1V, CL1X2-D1D3S, CL1Y2-T1D2S, CL1XY2-DT1D5S, CL2DA2-B, CL2AD4-B, CL1PSU-2A, CL1PAD1, CL2GA13-60, CL2GA21-60, CL2GA21-300, CL2GA31-60, CL2TE-5, CL2TE-10S, CL1-HLD

Thank you for your continued support of Mitsubishi Electric programmable controllers, MELSEC series.

We are informing you that production of the following CC-Link/LT products will be discontinued.

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1 MODELS TO BE DISCONTINUED

Product	Model
CC-Link/LT master module	QJ61CL12
	LJ61CL12
	FX3UC-32MT-LT
	FX3UC-32MT-LT-2
	FX2N-64CL-M
CC-Link–CC-Link/LT bridge module	AJ65SBT-CLB
CC-Link/LT remote I/O module (screw terminal block type)	CL1X4-D1B2
	CL2X8-D1B2
	CL1Y4-T1B2
	CL2Y8-TP1B2
	CL1Y4-R1B2
	CL1Y4-R1B1
	CL1XY4-DT1B2
	CL1XY8-DT1B2
	CL1XY4-DR1B2
	CL1XY8-DR1B2
	CC-Link/LT remote I/O module (spring clamp terminal block type)
CL2X8-D1S2	
CL1Y4-T1S2	
CL2Y8-TP1S2	
CL2Y8-TPE1S2	
CC-Link/LT remote I/O module (sensor connector type (e-CON))	CL1X4-D1C3
	CL2X8-D1C3V
	CL2X16-D1C3V
	CL1Y4-T1C2
	CL2Y8-TP1C2V
	CL2Y16-TP1C2V
	CL2XY16-DTP1C5V
CC-Link/LT remote I/O module (MIL connector type)	CL2X16-D1M1V
	CL2X16-D1MJ1V
	CL2Y16-TP1M1V
	CL2Y16-TP1MJ1V
	CL2Y16-TPE1M1V
CC-Link/LT remote I/O module (cable type)	CL1X2-D1D3S
	CL1Y2-T1D2S
	CL1XY2-DT1D5S
CC-Link/LT analog module	CL2AD4-B
	CL2DA2-B
CC-Link/LT dedicated power supply	CL1PSU-2A
CC-Link/LT power supply adapter	CL1PAD1
CC-Link/LT dedicated communication LSI	CL2GA13-60
	CL2GA21-60
	CL2GA21-300
	CL2GA31-60
Screw terminal block, common terminal block	CL2TE-5
Spring clamp terminal block, common terminal block	CL2TE-10S
Holder	CL1-HLD

2 SCHEDULE

Other than LJ61CL12

- Transition to made-to-order: March 31, 2022
- Order acceptance: Until February 28, 2025
- Production discontinuation: March 31, 2025

LJ61CL12

- Transition to made-to-order: March 31, 2022
- Order acceptance: Until August 31, 2022
- Production discontinuation: September 30, 2022

Note that the production of CC-Link/LT products may be discontinued before the production discontinuation date depending on the stock status of the parts used.

Purchase additional products as spares before the order acceptance deadline.

3 REASON FOR DISCONTINUATION

The demand for the relevant products is tremendously decreasing. Some parts of the programmable controllers are now obsolete, and we will have difficulty to maintain our production system.

4 REPAIR SUPPORT

Other than LJ61CL12

Repair support period: Until March 31, 2032 (for seven years after the discontinuation of production)

LJ61CL12

Repair support period: Until September 28, 2029 (for seven years after the discontinuation of production)

5 REPLACEMENT FROM CC-LINK/LT

AnyWireASLINK is recommended as an alternative CC-Link/LT network. Check the speed and communication distance required for your system.

If AnyWireASLINK does not meet the required specifications, consult our representatives.

5.1 Replacement Method

Selecting an alternative network

○: Compatible (backward compatible performance and function), △: Must be checked (downward compatible performance and function)

Item	CC-Link/LT	AnyWireASLINK	Compatibility	
Specifications	Maximum number of link points* ¹	1024 points (2048 points)* ²	• 512 bits + 1024 words (AnyWireASLINK Ver.1.1) • 512 bits (AnyWireASLINK Ver.1.0)	△
	Number of link points per station	16 points (32 points)* ²	1 to 32 points	○
	Number of connected modules	64 modules	128 modules	○
	Output transmission delay time* ³	1.7ms (transmission speed: 2.5Mbps)	9.0ms	△
	Input transmission delay time* ³	3ms (transmission speed: 2.5Mbps)	11ms	△
Wiring specifications	Cable	• CC-Link/LT dedicated flat cable • VCTF cable • Flexible cable	• Dedicated flat cable • UL-listed general-purpose 2-wire cable • UL-listed general-purpose wire (Existing CC-Link/LT cables can be used.)	○* ⁴
	Overall cable distance (main line + branch line)	700m (transmission speed: 156kbps)	200m	△

*1 The maximum number of link points differs depending on the master module to be used.

*2 When the same I/O address is used.

*3 Programmable controller scan time: 1ms, input response time: 1ms, output response time: 0.1ms, connected station: 16 points × 8 stations, number of used points: transmission delay time when 128 points are set.

*4 The cables for CC-Link/LT can be used for AnyWireASLINK. (The devices for CC-Link/LT cannot be used with the devices for AnyWireASLINK.)

Replacement method

Remove the devices for CC-Link/LT (master modules, slave modules, dedicated power supply, and terminating resistors) from the wiring, then wire the devices for AnyWireASLINK instead. Existing CC-Link/LT cables can be used.

In addition, the connectors for CC-Link/LT can be connected to the LP connectors (4-pole) for AnyWireASLINK.

Settings of master/slave modules for AnyWireASLINK

Set the following items for master and slave modules so that the required specifications for the devices to be used are satisfied.

- Refresh settings
- Settings of number of bit data points
- Automatic address detection function
- Address setting of slave modules
- Parameter setting of slave modules

For details on the setting method, refer to manuals of the module to be used.

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Change of programs

For change of the initial part including network error monitoring, refer to manuals of the master module to be used.

Replace I/O devices using the "Device batch" function in the engineering tool.

A different setting method is used for the resolution and remote I/O signals for analog modules. Correct the programs according to the manual of the module to be used.

Precautions

Before replacing CC-Link/LT with AnyWireASLINK, refer to the manual of the module to be used and check the specifications, functions, and handling. Before actual operation, check the operation of the entire system.

6 ALTERNATIVE MODELS

Replace the models to be discontinued with alternative models as follows.

Model to be discontinued		Alternative model*1	Remarks
Product	Model		
CC-Link/LT master module	QJ61CL12	<ul style="list-style-type: none"> • QJ51AW12AL • RJ51AW12AL 	—
	LJ61CL12	<ul style="list-style-type: none"> • LJ51AW12AL • RJ51AW12AL 	—
	<ul style="list-style-type: none"> • FX3UC-32MT-LT • FX3UC-32MT-LT-2 	<ul style="list-style-type: none"> • FX3U-128ASL-M • FX5-ASL-M 	A separate FX3 series main module or iQ-F series FX5 CPU module is required for an alternative model.
	FX2N-64CL-M	<ul style="list-style-type: none"> • FX3U-128ASL-M • FX5-ASL-M 	
Bridge module across CC-Link and CC-Link/LT	AJ65SBT-CLB	NZ2AW1C2AL	—
CC-Link/LT remote I/O module (screw terminal block type)	CL1X4-D1B2	<ul style="list-style-type: none"> • BL296SB-08F (NPN type) • BL296SB-08FS (PNP type) 	—
	CL2X8-D1B2	<ul style="list-style-type: none"> • BL296SB-08F (NPN type) • BL296SB-08FS (PNP type) 	—
	CL1Y4-T1B2	BL296PB-08F	—
	CL2Y8-TP1B2	BL296PB-08F	—
	CL1Y4-R1B2	BL296PB-08RS	—
	CL1Y4-R1B1	BL296PB-08RS	—
	CL1XY4-DT1B2	<ul style="list-style-type: none"> • BL296XB-08F (NPN type) • BL296XB-08FS (PNP type) 	—
	CL1XY8-DT1B2	<ul style="list-style-type: none"> • BL296XB-08F (NPN type) • BL296XB-08FS (PNP type) 	—
	CL1XY4-DR1B2	—	There are no alternative models. Use the following models in combination. <ul style="list-style-type: none"> • Input side: BL296SB-08F (NPN type), BL296SB-08FS (PNP type) • Output side: BL296PB-08RS
	CL1XY8-DR1B2	—	
CC-Link/LT remote I/O module (spring clamp terminal block type)	CL1X4-D1S2	<ul style="list-style-type: none"> • BL296SB-08F-3 (NPN type) • BL296SB-08FS-3 (PNP type) 	—
	CL2X8-D1S2	<ul style="list-style-type: none"> • BL296SB-08F-3 (NPN type) • BL296SB-08FS-3 (PNP type) 	—
	CL1Y4-T1S2	BL296PB-08FS-3	—
	CL2Y8-TP1S2	BL296PB-08F-3	—
	CL2Y8-TPE1S2	BL296PB-08FS-3	—
CC-Link/LT remote I/O module (sensor connector type (e-CON))	CL1X4-D1C3	BL296SB-04F-4PA-20	—
	CL2X8-D1C3V	BL296SB-08F-4PA-20	—
	CL2X16-D1C3V	BL296SB-16F-4PA-20	—
	CL1Y4-T1C2	BL296PB-04F-4A-20	—
	CL2Y8-TP1C2V	BL296PB-08F-4A-20	—
	CL2Y16-TP1C2V	BL296PB-16F-4A-20	—
	CL2XY16-DTP1C5V	BL296XB-16F-4PA-20	—
CC-Link/LT remote I/O module (MIL connector type)	CL2X16-D1M1V	BL265SB-16F-2-20	—
	CL2X16-D1MJ1V	BL265SB-16F-2-20	—
	CL2Y16-TP1M1V	BL265PB-16F-2-20	—
	CL2Y16-TP1MJ1V	BL265PB-16F-2-20	—
	CL2Y16-TPE1M1V	BL265PB-16FS-2-20	—
CC-Link/LT remote I/O module (cable type)	CL1X2-D1D3S	BL287SB-02F-CC20	—
	CL1Y2-T1D2S	BL287PB-02F-CC20	—
	CL1XY2-DT1D5S	BL287XB-02F-CC20	—

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Model to be discontinued		Alternative model*1	Remarks
Product	Model		
CC-Link/LT analog module	CL2AD4-B	<ul style="list-style-type: none"> • LA-A12W (master module) • LB-A12W (slave module) 	—
	CL2DA2-B	<ul style="list-style-type: none"> • Current output: LA-DA12W (master module), LB-DA12W (slave module) • Voltage output: LA-DV12W (master module), LB-DV12W (slave module) 	—
CC-Link/LT dedicated power supply	CL1PSU-2A	—	CC-Link/LT dedicated accessories. There are no alternative ones.
CC-Link/LT power supply adapter	CL1PAD1	—	
CC-Link/LT dedicated communication LSI	CL2GA13-60	—	
	CL2GA21-60	—	
	CL2GA21-300	—	
	CL2GA31-60	—	
Screw terminal block, common terminal block	CL2TE-5	—	
Spring clamp terminal block, common terminal block	CL2TE-10S	—	
Holder	CL1-HLD	—	

*1 Consult Anywire Corporation for the products manufactured by Anywire Corporation.

7 SPECIFICATIONS COMPARISON

7.1 Master Module

Specifications comparison with QJ61CL12 and LJ61CL12

○: Compatible (backward compatible performance and function), △: Must be checked (downward compatible performance and function), —: Not covered

Item		Specifications						Compatibility
		Model to be discontinued			Alternative model			
		QJ61CL12 LJ61CL12			QJ51AW12AL LJ51AW12AL	RJ51AW12AL		
		Point mode				Only bit data	Bit data + word data	
4-point mode	8-point mode	16-point mode						
Control specifications	Maximum number of link points	256 points (512 points)* ¹	512 points (1024 points)* ¹	1024 points (2048 points)* ¹	512 points maximum (Input: 256 points, output: 256 points)	• Number of bit data points 512 points maximum (input: 256 points, output: 256 points) • Number of word data points 1024 words maximum (input: 512 words, output: 512 words)	△ ²	
	Number of link points per station	4 points (8 points)* ¹	8 points (16 points)* ¹	16 points (32 points)* ¹	1 to 32 points		○	
Link scan time	When 32 stations are connected	Number of points	128 points	256 points	512 points	• 64 points: 2.4ms • 128 points: 3.6ms • 256 points: 6.0ms • 512 points: 10.7ms	The transmission cycle time changes depending on the number of bit data or word data setting to be set. When 64 points (input: 32 points, output: 32 points) and 2 words (input: 1 word, output: 1 word) are set, the bit transmission cycle time is 4.9ms and the word transmission cycle time is 3.7ms	△ ³
		2.5Mbps	0.7ms	0.8ms	1.0ms			
		625kbps	2.2ms	2.7ms	3.8ms			
	156kbps	8.0ms	10.0ms	14.1ms				
	When 64 stations are connected	Number of points	256 points	512 points	1024 points			
		2.5Mbps	1.2ms	1.5ms	2.0ms			
625kbps		4.3ms	5.4ms	7.4ms				
	156kbps	15.6ms	20.0ms	27.8ms				

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Item		Specifications				Compatibility	
		Model to be discontinued		Alternative model			
		QJ61CL12 LJ61CL12		QJ51AW12AL LJ51AW12AL	RJ51AW12AL		
		Point mode			Only bit data		Bit data + word data
4-point mode	8-point mode	16-point mode					
Communication specifications	Transmission speed	2.5Mbps/625kbps/156kbps		27.0kHz		—	
	Communication method	BITR (Broadcastpolling + Interval Timed Response) method		DC power superimposed total frame/cyclic system		—	
	Network topology	T-branch type		Bus topology (multidrop system, T-branch system, tree branch system)		○	
	Error control system	CRC		Checksum, double-check system		—	
	Number of connected modules	64 modules		128 modules		○	
	Remote station number	1 to 64		0 to 254		—	
	Installation position of master station	End of a main line		No restrictions		○	
	RAS function	Network diagnostics, internal loopback diagnostics, slave station cutoff function, automatic return function		Disconnected transmission cable location detection function, transmission cable short detection function, transmission cable voltage drop detection function		—	
Connection cable	<ul style="list-style-type: none"> Dedicated flat cable (0.75mm² × 4) VCTF cable Flexible cable 		<ul style="list-style-type: none"> Dedicated flat cable (1.25mm², 0.75mm², temperature rating: 90mm²) UL-listed general-purpose 2-wire cable (VCTF, VCT, 1.25mm², 0.75mm², temperature rating: 70°C or higher) UL-listed general-purpose wire (1.25mm², 0.75mm², temperature rating: 70°C or higher) 		○ ^{*4}		
Number of occupied I/O points		16, 32, 48, 64, 128, 256, 512, 1024 points (I/O assignment: intelligent)		32 points (I/O assignment: intelligent)		—	
Internal current consumption (5VDC)		<ul style="list-style-type: none"> QJ61CL12: 0.13A LJ61CL12: 0.16A 		0.2A		△	
24VDC power supply	Voltage	20.4 to 28.8VDC		Voltage: 21.6 to 27.6VDC (-10 to +15% at 24VDC) Ripple voltage: 0.5Vp-p or lower Recommended voltage: 26.4VDC (+10% at 24VDC)		△ ^{*5}	
	Current consumption	<ul style="list-style-type: none"> QJ61CL12: 0.028A LJ61CL12: 0.03A 		<ul style="list-style-type: none"> QJ51AW12AL: 0.1A LJ51AW12AL: 0.1A RJ51AW12AL: 0.2A Transmission cable supply current: 2A maximum 		△ ^{*6}	
	Current at startup	0.070A		—		—	
Weight		<ul style="list-style-type: none"> QJ61CL12: 0.09kg LJ61CL12: 0.12kg 		0.2kg	0.13kg	△	
Applicable standards		<ul style="list-style-type: none"> QJ61CL12: UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS, Ship classification LJ61CL12: UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS 		UL/cUL, CE (EMC, RoHS), KC, China RoHS		△	

*1 When the same I/O address is used.

*2 If the number of input points or the number of output points is 256 or larger, use multiple AnyWireASLINK master modules.

*3 The I/O timing changes depending on the number of points to be set.

*4 The cables for CC-Link/LT can be used for AnyWireASLINK. (Do not use the devices for CC-Link/LT and the devices for AnyWireASLINK in combination.)

*5 The voltage range of the external power supply is reduced.

*6 Power in AnyWireASLINK is supplied to a slave module through communication cables. Therefore, select a 24VDC external power supply supporting the power consumption of the entire AnyWireASLINK system.

Specifications comparison with FX3UC-32MT-LT and FX3UC-32MT-LT-2

○: Compatible (backward compatible performance and function), △: Must be checked (downward compatible performance and function), —: Not covered


Item			Specifications				Compatibility
			Model to be discontinued		Alternative model		
			FX3UC-32MT-LT FX3UC-32MT-LT-2		FX3U-128ASL-M	FX5-ASL-M	
			Point mode				
		4-point mode	16-point mode				
Number of connected master modules			Number of additionally connectable master modules to CC-Link/LT: 7 modules maximum		1 modules maximum		△
Control specifications	Maximum number of link points		256 points (including the I/O points of each programmable controller)		<ul style="list-style-type: none"> FX3U/FX3UC: 128 points maximum (input: 128 points, output: 128 points) FX3G/FX3GC: 128 points maximum (input: 128 points, output: 128 points) 	<ul style="list-style-type: none"> FX5U/FX5UC CPU module: 448 points maximum (input: 256 points, output: 256 points) FX5UJ CPU module: 216 points maximum (input: 192 points, output: 192 points) 	△*1
	Number of link points per station		4 points (8 points)*2	16 points (32 points)*2	1 to 32 points		○
	Link scan time	When 32 stations are connected	Number of points	128 points	256 points	<ul style="list-style-type: none"> Number of input points or output points ≤ 32 points: 2.4ms 32 points < Number of input points or output points ≤ 64 points: 3.6ms 64 points < Number of input points or output points ≤ 96 points: 4.8ms 96 points < Number of input points or output points ≤ 128 points: 6.0ms 	<ul style="list-style-type: none"> 64 points (input: 32 points, output: 32 points): 2.4ms 128 points (input: 64 points, output: 64 points): 3.6ms 192 points (input: 96 points, output: 96 points): 4.8ms 216 points (input: 192 points, output: 24 points): 8.3ms 256 points (input: 128 points, output: 128 points): 6.0ms 320 points (input: 160 points, output: 160 points): 7.2ms 384 points (input: 192 points, output: 192 points): 8.3ms 384 points (input: 224 points, output: 160 points): 9.5ms 384 points (input: 256 points, output: 128 points): 10.7ms 448 points (input: 224 points, output: 224 points): 9.5ms 448 points (input: 256 points, output: 192 points): 10.7ms
2.5Mbps			0.7ms	1.0ms			
625kbps			2.2ms	3.8ms			
156kbps			8.0ms	14.1ms			
When 64 stations are connected		Number of points	256 points	256 points			
		2.5Mbps	1.2ms	2.0ms			
	625kbps	4.3ms	7.4ms				
		156kbps	15.6ms	27.8ms			

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Item		Specifications			Compatibility		
		Model to be discontinued		Alternative model			
		FX3UC-32MT-LT FX3UC-32MT-LT-2		FX3U-128ASL-M		FX5-ASL-M	
		Point mode					
		4-point mode	16-point mode				
Communication specifications	Transmission speed	2.5Mbps/625kbps/156kbps		27.0kHz		—	
	Communication method	BITR (Broadcastpolling + Interval Timed Response) method		DC power superimposed total frame/cyclic system		—	
	Network topology	T-branch type		Bus topology (multidrop system, T-branch system, tree branch system)		○	
	Error control system	CRC		Checksum, double-check system		—	
	Number of connected modules	Remote I/O station	64 modules maximum		128 modules maximum		○
		Remote device station (RD station)	16 modules maximum				
	Remote station number	Remote I/O station	1 to 64		0 to 127		—
		Remote device station (RD station)	49 to 64				
	Installation position of master station	End of a main line		No restrictions		○	
RAS function	Communication error detection, automatic return function, slave station cutoff, internal loopback diagnostics		Disconnected transmission cable location detection function, transmission cable short detection function, transmission cable voltage drop detection function		—		
Connection cable	<ul style="list-style-type: none"> Dedicated flat cable VCTF cable Dedicated flexible cable 		<ul style="list-style-type: none"> Dedicated flat cable (1.25mm², 0.75mm², temperature rating: 90mm²) UL-listed general-purpose 2-wire cable (VCTF, VCT, 1.25mm², 0.75mm², temperature rating: 70°C or higher) UL-listed general-purpose wire (1.25mm², 0.75mm², temperature rating: 70°C or higher) 		○*4		
Number of occupied I/O points		$A+B+C+D+E \leq 256$ of the maximum number of I/O points <ul style="list-style-type: none"> A: 32 of the number of I/O points of FX3UC-32MT-LT/FX3UC-32MT-LT-2 B: Number of occupied I/O points of the I/O extension block C: Number of I/O points of the remote I/O station of the CC-Link/LT built-in master module D: Number of I/O points of the remote I/O station of the master module added to CC-Link/LT E: Number of occupied I/O points of the special extension module/block 		8 points (input or output)		—	
Internal current consumption (5VDC)		— (5VDC supplyable current: 350mA)		130mA	200mA	△*5	

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Item		Specifications			Compatibility	
		Model to be discontinued		Alternative model		
		FX3UC-32MT-LT FX3UC-32MT-LT-2		FX3U-128ASL-M		FX5-ASL-M
		Point mode				
4-point mode	16-point mode					
24VDC power supply	Voltage	Voltage: Voltage of power supply supplied to the main module - 1.1V Ripple voltage: 0.5Vp-p or lower		Voltage: 21.6 to 27.6V (-10 to +15% at 24VDC) Ripple voltage: 0.5Vp-p or lower	△*6	
	Current consumption	0.35A		<ul style="list-style-type: none"> FX3U-128ASL-M: 0.1A FX5-ASL-M: 0.1A Transmission cable supply current: 2A maximum 	△*7	
Weight		0.25kg		0.2kg	○	
Applicable standards		<ul style="list-style-type: none"> FX3UC-32MT-LT: KC, China RoHS FX3UC-32MT-LT-2: CE (EMC, RoHS), UL/cUL, EAC, China RoHS 		<ul style="list-style-type: none"> FX3U-128ASL-M: CE (EMC, RoHS), UL/cUL, China RoHS FX5-ASL-M: CE (EMC, RoHS), UL/cUL, KC, China RoHS 	△	

*1 The maximum number of link points differs depending on modules. If the number of input points or the number of output points is 128 or larger, use FX5 series modules. For applicable CPU modules and applicable version of engineering tools, refer to the following.
 MELSEC iQ-F FX5 User's Manual (AnyWireASLINK) (SH-081796ENG)

*2 When the same I/O address is used.

*3 The I/O timing changes depending on the number of points to be set.

*4 The cables for CC-Link/LT can be used for AnyWireASLINK. (Do not use the devices for CC-Link/LT and the devices for AnyWireASLINK in combination.)

*5 The internal current consumption differs.

*6 The voltage range of the external power supply differs.

*7 Power in AnyWireASLINK is supplied to a slave module through communication cables. Therefore, select a 24VDC external power supply supporting the power consumption of the entire AnyWireASLINK system.

Specifications comparison with FX2N-64CL-M

○: Compatible (backward compatible performance and function), △: Must be checked (downward compatible performance and function), —: Not covered

Item	Specifications			Compatibility	
	Model to be discontinued		Alternative model		
	FX2N-64CL-M		FX3U-128ASL-M		FX5-ASL-M
	Point mode				
4-point mode	16-point mode				
Number of connected master modules	<ul style="list-style-type: none"> • FX1N series: 4 modules maximum • FX1NC series: 2 modules maximum • FX2N series: 8 modules maximum • FX2NC series: 3 modules maximum • FX3G/FX3U series: 8 modules maximum • FX3GC/FX3UC series: 5 modules maximum 		1 modules maximum	△	

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Item			Specifications				Compatibility
			Model to be discontinued		Alternative model		
			FX2N-64CL-M		FX3U-128ASL-M	FX5-ASL-M	
			Point mode				
		4-point mode	16-point mode				
Control specifications	Maximum number of link points		<ul style="list-style-type: none"> When FX1N/FX1NC or FX3G/FX3GC is connected: 128 points When FX2N/FX2NC or FX3U/FX3UC is connected: 256 points 		<ul style="list-style-type: none"> FX3U/FX3UC: 128 points maximum (input: 128 points, output: 128 points) FX3G/FX3GC: 128 points maximum (input: 128 points, output: 128 points) 	<ul style="list-style-type: none"> FX5U/FX5UC CPU module: 448 points maximum (input: 256 points, output: 256 points) FX5UJ CPU module: 216 points maximum (input: 192 points, output: 192 points) 	△ ^{*1}
	Number of link points per station		4 points (8 points) ^{*2}	16 points (32 points) ^{*2}	1 to 32 points		○
Link scan time	When 32 stations are connected	Number of points	128 points	256 points	<ul style="list-style-type: none"> Number of input points or output points ≤ 32 points: 2.4ms 32 points < Number of input points or output points ≤ 64 points: 3.6ms 64 points < Number of input points or output points ≤ 96 points: 4.8ms 96 points < Number of input points or output points ≤ 128 points: 6.0ms 	<ul style="list-style-type: none"> 64 points (input: 32 points, output: 32 points): 2.4ms 128 points (input: 64 points, output: 64 points): 3.6ms 192 points (input: 96 points, output: 96 points): 4.8ms 216 points (input: 192 points, output: 24 points): 8.3ms 256 points (input: 128 points, output: 128 points): 6.0ms 320 points (input: 160 points, output: 160 points): 7.2ms 384 points (input: 192 points, output: 192 points): 8.3ms 384 points (input: 224 points, output: 160 points): 9.5ms 384 points (input: 256 points, output: 128 points): 10.7ms 448 points (input: 224 points, output: 224 points): 9.5ms 448 points (input: 256 points, output: 192 points): 10.7ms 	△ ^{*3}
		2.5Mbps	0.7ms	1.0ms			
		625kbps	2.2ms	3.8ms			
		156kbps	8.0ms	14.1ms			
	When 64 stations are connected	Number of points	256 points	256 points			
		2.5Mbps	1.2ms	2.0ms			
		625kbps	4.3ms	7.4ms			
		156kbps	15.6ms	27.8ms			

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Item		Specifications			Compatibility	
		Model to be discontinued		Alternative model		
		FX2N-64CL-M		FX3U-128ASL-M		FX5-ASL-M
		Point mode				
4-point mode	16-point mode					
Communication specifications	Transmission speed	2.5Mbps/625kbps/156kbps		27.0kHz		—
	Communication method	BITR (Broadcastpolling + Interval Timed Response) method		DC power superimposed total frame/cyclic system		—
	Network topology	T-branch type		Bus topology (multidrop system, T-branch system, tree branch system)		○
	Error control system	CRC		Checksum, double-check system		—
	Number of connected modules	64 modules maximum		128 modules maximum		○
	Remote station number	1 to 64		0 to 127		—
	Installation position of master station	End of a main line		No restrictions		○
	RAS function	Communication error detection, automatic return function, slave station cutoff, internal loopback diagnostics		Disconnected transmission cable location detection function, transmission cable short detection function, transmission cable voltage drop detection function		—
Connection cable	<ul style="list-style-type: none"> Dedicated flat cable VCTF cable Dedicated flexible cable 		<ul style="list-style-type: none"> Dedicated flat cable (1.25mm², 0.75mm², temperature rating: 90mm²) UL-listed general-purpose 2-wire cable (VCTF, VCT, 1.25mm², 0.75mm², temperature rating: 70°C or higher) UL-listed general-purpose wire (1.25mm², 0.75mm², temperature rating: 70°C or higher) 		○ ^{*4}	
Number of occupied I/O points		8 points (input or output)		8 points (input or output)		—
Internal current consumption (5VDC)		190mA (supplied from a programmable controller through an extension connector)		130mA 200mA		△ ^{*5}
24VDC power supply	Voltage	20.4 to 28.8VDC		Voltage: 21.6 to 27.6V (-10 to +15% at 24VDC) Ripple voltage: 0.5Vp-p or lower		△ ^{*6}
	Current consumption	0.025A		<ul style="list-style-type: none"> FX3U-128ASL-M: 0.1A FX5-ASL-M: 0.1A Transmission cable supply current: 2A maximum 		△ ^{*7}
Weight		0.15kg		0.2kg		○
Applicable standards		CE (EMC, RoHS), UL/cUL, China RoHS		CE (EMC, RoHS), UL/cUL, China RoHS		○

*1 The maximum number of link points differs depending on modules. If the number of input points or the number of output points is 128 or larger, use FX5 series modules. For applicable CPU modules and applicable version of engineering tools, refer to the following.

📖 MELSEC iQ-F FX5 User's Manual (AnyWireASLINK) (SH-081796ENG)

*2 When the same I/O address is used.

*3 The I/O timing changes depending on the number of points to be set.

*4 The cables for CC-Link/LT can be used for AnyWireASLINK. (Do not use the devices for CC-Link/LT and the devices for AnyWireASLINK in combination.)

*5 The internal current consumption differs.

*6 The voltage range of the external power supply differs.

*7 Power in AnyWireASLINK is supplied to a slave module through communication cables. Therefore, select a 24VDC external power supply supporting the power consumption of the entire AnyWireASLINK system.

7.2 Bridge Module

Specifications comparison with AJ65SBT-CLB

○: Compatible (backward compatible performance and function), △: Must be checked (downward compatible performance and function), —: Not covered

■ CC-Link side

Item	Specifications			Compatibility	
	Model to be discontinued	Alternative model			
	AJ65SBT-CLB	NZ2AW1C2AL			
CC-Link version	Ver.1.10	Ver.1.10	Ver.2.00	○	
Station type	Remote device station	Remote device station		○	
Number of occupied stations	1 station	—	<ul style="list-style-type: none"> • 32 of the number of occupied points for RX/RX • 4 points each for RWr/RWw 	—	
	2 stations	<ul style="list-style-type: none"> • 64 of the number of occupied stations each for RX and RY (16 points are used in the system) • 8 points each for RWr/RWw 	<ul style="list-style-type: none"> • 64 of the number of occupied points for RX/RX • 8 points each for RWr/RWw 	—	
	3 stations	—	<ul style="list-style-type: none"> • 96 of the number of occupied points for RX/RX • 12 points each for RWr/RWw 	—	
	4 stations	<ul style="list-style-type: none"> • 128 of the number of occupied stations each for RX and RY (16 points are used in the system) • 16 points each for RWr/RWw 	<ul style="list-style-type: none"> • 128 of the number of occupied points for RX/RX • 16 points each for RWr/RWw 	<ul style="list-style-type: none"> • 224 of the number of occupied points for RX/RX • 32 points each for RWr/RWw 	○ ^{*1}
	8 stations (4 occupied stations × 2 modules)	<ul style="list-style-type: none"> • 256 of the number of occupied stations each for RX and RY (32 points are used in the system) • 32 points each for RWr/RWw 	—	—	△ ^{*1*2}
Connection position	No restrictions	No restrictions		○	
External interface	<ul style="list-style-type: none"> • One-touch connector for communication (transmission circuit) (5-pin and insulation displacement type, connector plug sold separately) • Online connector for communication: A6CON-LJ5P (sold separately) 	Terminal block <ul style="list-style-type: none"> • Type: MSTB 2,5/5-STF-5,08AU • Tightening torque: 0.2 to 0.3N·m 		— ^{*3}	

*1 The RX/RX and RWr/RWw assignments are not compatible, so the program must be changed.

*2 If the number of points for RX and RY is 224 or larger or the number of points for RWr and RWw is 16 or larger, use multiple AnyWireASLINK bridge modules.

*3 The connectors for CC-Link communication cannot be used. Use solderless terminals.

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■ CC-Link/LT and AnyWireASLINK side

Item		Specifications				Compatibility
		Model to be discontinued			Alternative model	
		AJ65SBT-CLB			NZ2AW1C2AL	
Point mode		4-point mode	8-point mode	16-point mode	—	—
Control specifications	Maximum number of link points	224 points (448 points)* ¹			512 points maximum (input: 256 points, output: 256 points)	○
	Number of link points per station	4 points (8 points)* ¹	8 points (16 points)* ¹	16 points (32 points)* ¹	1 to 32 points	○
Communication specifications	Transmission speed	2.5Mbps/625kbps/156kbps			27.0kHz	—
	Communication method	Broadcast polling method			DC power superimposed total frame/cyclic system	—
	Network topology	T-branch type			Bus topology (multidrop system, T-branch system, tree branch system)	○
	Error control system	CRC			Checksum, double-check system	—
	Number of connected modules	56 modules			128 modules	○
	Remote station number	1 to 56			0 to 254	—
	Connection position	End of a main line			No restrictions	○
	RAS function	Network diagnostics, internal loopback diagnostics, slave station cutoff function, automatic return function			Disconnected transmission cable location detection function, transmission cable short detection function, transmission cable voltage drop detection function	—
Connection cable	<ul style="list-style-type: none"> • Dedicated flat cable (0.75mm² × 4) • VCTF cable • Flexible cable 			<ul style="list-style-type: none"> • Dedicated flat cable (1.25mm², 0.75mm², temperature rating: 90mm²) • UL-listed general-purpose 2-wire cable (VCTF, VCT, 1.25mm², 0.75mm², temperature rating: 70°C or higher) • UL-listed general-purpose wire (1.25mm², 0.75mm², temperature rating: 70°C or higher) 	○ ²	

*1 When the same I/O address is used.

*2 The cables for CC-Link/LT can be used for AnyWireASLINK. (Do not use the devices for CC-Link/LT and the devices for AnyWireASLINK in combination.)

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■ Common items

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	AJ65SBT-CLB	NZ2AW1C2AL		
Module mounting screw	Screw: M4 × 0.7mm × 16mm or larger Tightening torque: 0.78 to 1.08N·m Installation using a DIN rail	Installation using a DIN rail	△ ^{*1}	
Module mounting direction	Can be mounted in any of six orientations.	Only front mounting	△ ^{*2}	
24VDC power supply	Voltage	24VDC external power supply: 20.4 to 26.4VDC Ripple voltage: within 5%	Voltage: 21.6 to 27.6V (-10 to +15% at 24VDC) Ripple voltage: 0.5Vp-p or lower Recommended voltage: 26.4VDC (+10% at 24VDC)	△ ^{*3}
	Current consumption	0.075A (at 24VDC)	Module current consumption: 0.2A Transmission cable supply current: 2A maximum	△ ^{*4}
	Current at startup	0.165A (at 24VDC)	—	—
Protection degree	IP2X	—	—	
Weight	0.09kg	0.2kg	△	
Applicable standards	UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS	UL/cUL, CE (EMC, RoHS), KC, China RoHS	△	

*1 Install the module using a DIN rail.

*2 The mounting orientation is limited.

*3 The voltage range of the external power supply is reduced.

*4 Power in AnyWireASLINK is supplied to a slave module through communication cables. Therefore, select a 24VDC external power supply supporting the power consumption of the entire AnyWireASLINK system.

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7.3 Remote I/O Module

Screw terminal block type

Specifications comparison with CL1X4-D1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1X4-D1B2	BL296SB-08F (NPN type) BL296SB-08FS (PNP type)	
Number of input points	4 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated input voltage	24VDC	24VDC	○
Rated input current	Approx. 4mA	Approx. 3.5mA	○
Operating voltage range	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum number of simultaneous input points	100% (at 24VDC)	100%	○
ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	○
OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△ ^{*2}
Input resistance	5.6kΩ	6.8kΩ	○
Input type	Positive (NPN)/negative (PNP) common shared type	• BL296SB-08F (NPN type) • BL296SB-08FS (PNP type)	△ ^{*4}
Response time	OFF → ON	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/1.5ms)	1ms or less △ ^{*3}
	ON → OFF	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/1.5ms)	1ms or less △ ^{*3}
Wiring method for common	4 points per common (2 terminals) (screw terminal block 2-wire type)	8 points per common (4 terminals) (screw terminal block 2-wire type)	○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower △ ^{*1}
	Current consumption	40mA (at all points ON)	6mA (transmission side), 40mA (I/O side) (at all points ON) △
	Current at startup	70mA	— —
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	8 input points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	53.5mm × 50mm × 40mm	81mm × 28.9mm × 39.4mm	× ^{*4}
Weight	0.06kg	0.06kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	• BL296SB-08F: CE (EMC, RoHS), KC, China RoHS • BL296SB-08FS: CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 Check that the timing includes the transmission delay time.

*4 The module appearance differs.

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Specifications comparison with CL2X8-D1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications			Compatibility
		Model to be discontinued		Alternative model	
		CL2X8-D1B2		BL296SB-08F (NPN type) BL296SB-08FS (PNP type)	
Number of input points		8 points		8 points	○
Insulation method		Photocoupler		Photocoupler	○
Rated input voltage		24VDC		24VDC	○
Rated input current		Approx. 4mA		Approx. 3.5mA	○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
Maximum number of simultaneous input points		100% (at 24VDC)		100%	○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher	○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower	△*2
Input resistance		5.6kΩ		6.8kΩ	○
Input type		Positive (NPN)/negative (PNP) common shared type		• BL296SB-08F (NPN type) • BL296SB-08FS (PNP type)	△
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—	—
	OFF → ON	TYP.	0.05ms	—	—
		MAX.	0.1ms	1.5ms	1ms
	ON → OFF	TYP.	0.2ms	—	—
MAX.		0.5ms	1.5ms	1ms	△*3
Wiring method for common		8 points per common (4 terminals) (screw terminal block 2-wire type)		8 points per common (4 terminals) (screw terminal block 2-wire type)	○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
	Current consumption	40mA (24VDC, all points ON)		6mA (transmission side), 40mA (I/O side) (at all points ON)	△
	Current at startup	70mA		—	—
Number of occupied stations		• 4-point mode: 2 stations occupied • 8-point mode, 16-point mode: 1 station occupied		8 input points are occupied.	—
Protection degree		IP2X		—	—
External dimensions (W × H × D)		64mm × 49mm × 40mm		81mm × 28.9mm × 39.4mm	×*4
Weight		0.09kg		0.06kg	○
Applicable standards		UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS		• BL296SB-08F: CE (EMC, RoHS), KC, China RoHS • BL296SB-08FS: CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

*4 The module appearance differs.

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Specifications comparison with CL1Y4-T1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL1Y4-T1B2	BL296PB-08F		
Number of output points	4 points	8 points	○	
Insulation method	Photocoupler	Photocoupler	○	
Rated input voltage	12/24VDC	24VDC	△ ^{*1}	
Operating voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}	
Maximum load current	0.1A/point, 0.4A/common	0.1A/point, 0.8A/common	○	
Maximum inrush current	0.4A/10ms	—	—	
Leakage current at OFF	0.1mA or lower/30VDC	0.1mA or lower	○	
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—	
Output type	Sink (NPN) type	NPN	○	
Response time	OFF → ON	1.0ms or less	○	
	ON → OFF	1.0ms or less	○	
Surge suppressor	Zener diode	—	△ ^{*3}	
Wiring method for common	4 points per common (2 terminals) (screw terminal block 2-wire type)	8 points per common (4 terminals) (screw terminal block 2-wire type)	○	
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
	Current consumption	60mA (at all points ON)	6mA (transmission side), 10mA (I/O side) (at all points ON)	○
	Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—	
Protection degree	IP2X	—	—	
External dimensions (W × H × D)	53.5mm × 50mm × 40mm	81mm × 28.9mm × 39.4mm	× ^{*4}	
Weight	0.06kg	0.06kg	○	
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), KC, China RoHS	△	

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 Take measures against surge outside the module.

*4 The module appearance differs.

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Specifications comparison with CL2Y8-TP1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2Y8-TP1B2	BL296PB-08F	
Number of output points	8 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△*1
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*2
Maximum load current	0.1A/point, 0.8A/common	0.1A/point, 0.8A/common	○
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Output type	Sink (NPN) type	NPN	○
Response time	OFF → ON	0.5ms or less	△*3
	ON → OFF	0.5ms or lower (resistance load)	△*3
Surge suppressor	Zener diode	—	△*4
Wiring method for common	8 points per common (4 terminals) (screw terminal block 2-wire type)	8 points per common (4 terminals) (screw terminal block 2-wire type)	○
External power supply for output part	Voltage	10.2 to 28.8VDC Ripple ratio: within 5%	△*2*5
	Current consumption	15mA or lower (24VDC (TYP.), all points ON) External load current is excluded.	—
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	△*2
	Current consumption	40mA (24VDC, all points ON)	○
	Current at startup	70mA	—
Number of occupied stations	4-point mode: 2 stations occupied 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	64mm × 49mm × 40mm	81mm × 28.9mm × 39.4mm	×*6
Weight	0.09kg	0.06kg	○
Applicable standards	UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS	CE (EMC, RoHS), KC, China RoHS	△

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 Check that the timing includes the transmission delay time.

*4 Take measures against surge outside the module.

*5 The wiring of the power supply differs. Review the wiring.

*6 The module appearance differs.

Specifications comparison with CL1Y4-R1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL1Y4-R1B2	BL296PB-08RS		
Number of output points	4 points	8 points	○	
Output type	Relay output	Relay output	○	
Insulation method	Mechanical insulation	Mechanical insulation	○	
Rated load voltage	240VAC, 30VDC or less (250VAC or less when the UL/cUL standard is supported)	240VAC, 30VDC or less	○	
Maximum load current	2A/point, 4A/common	240VAC/10A (resistive load), 7.5A (inductive load) 30VDC/10A (resistive load), 5A (inductive load)	○	
Response time	OFF → ON	10ms or less	1ms or less	△*1
	ON → OFF	10ms or less	1ms or less	△*1
Contact life	200VAC/1.5A, 240VAC/1A (COSφ = 0.7), 100,000 times or more 200VAC/1A, 240VAC/0.1A (COSφ = 0.35), 100,000 times or more 24VDC/1A, 100VDC/0.1A (L/R = 7ms), 100,000 times or more	Mechanical insulation: 10,000,000 times or more, electrical insulation: 100,000 times or more/rated load Mechanical insulation: 18,000 times/h, rated load: 1,800 times/h	○	
Wiring method for common	4 points per common (5 terminals) (screw terminal block 2-wire type)	1 point per common (independent terminal) (screw terminal block)	△*2	
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*3
	Current consumption	65mA (at all points ON)	6mA (transmission side), 200mA (I/O side) (at all points ON)	△*4
	Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—	
Protection degree	IP1X	—	—	
External dimensions (W × H × D)	53.5mm × 80mm × 40mm	185mm × 79mm × 55mm	×*5	
Weight	0.11kg	0.37kg	△	
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	China RoHS	△	

*1 Check that the timing includes the transmission delay time.

*2 The wiring of the power supply differs. Review the wiring.

*3 The operating voltage range is reduced.

*4 The current value at all points ON differs. Check the current consumption of the whole module.

*5 The module appearance differs.

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Specifications comparison with CL1Y4-R1B1

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL1Y4-R1B1	BL296PB-08RS		
Number of output points	4 points	8 points	○	
Output type	Relay output	Relay output	○	
Insulation method	Mechanical insulation	Mechanical insulation	○	
Rated load voltage	240VAC, 30VDC or less (250VAC or less when the UL/cUL standard is supported)	240VAC, 30VDC or less	○	
Maximum load current	2A/point, 2A/common	240VAC/10A (resistive load), 7.5A (inductive load) 30VDC/10A (resistive load), 5A (inductive load)	○	
Response time	OFF → ON	Approx. 10ms or less	1ms or less	△ ^{*1}
	ON → OFF	Approx. 10ms or less	1ms or less	△ ^{*1}
Contact life	200VAC/1.5A, 240VAC/1A (COSφ = 0.7), 100,000 times or more	Mechanical insulation: 10,000,000 times or more, electrical insulation: 100,000 times or more/rated load Mechanical insulation: 18,000 times/h, rated load: 1,800 times/h)	○	
	200VAC/1A, 240VAC/0.1A (COSφ = 0.35), 100,000 times or more			
	24VDC/1A, 100VDC/0.1A (L/R = 7ms), 100,000 times or more			
Wiring method for common	1 point per common (independent terminal) (screw terminal block 1-wire type)	1 point per common (independent terminal) (screw terminal block)	○	
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
	Current consumption	65mA (at all points ON)	6mA (transmission side), 200mA (I/O side) (at all points ON)	△ ^{*3}
	Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—	
Protection degree	IP1X	—	—	
External dimensions (W × H × D)	53.5mm × 80mm × 40mm	185mm × 79mm × 55mm	× ^{*4}	
Weight	0.11kg	0.37kg	△	
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	China RoHS	—	

*1 Check that the timing includes the transmission delay time.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 The current value at all points ON differs. Check the current consumption of the whole module.

*4 The module appearance differs.

FA-A-0308-B

Specifications comparison with CL1XY4-DT1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

■ Specifications for input

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1XY4-DT1B2	BL296XB-08F (NPN type) BL296XB-08FS (PNP type)	
Input type	DC input (external I/O power supply)	DC input (common with module power supply)	○
Number of input points	2 points	4 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated input voltage	24VDC	24VDC	○
Rated input current	Approx. 4mA	Approx. 3.5mA	○
Operating voltage range	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
Maximum number of simultaneous input points	100% (at 24VDC)	100% (at 24VDC)	△
ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	○
OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△*2
Input resistance	5.6kΩ	6.8kΩ	○
Response time	OFF → ON	1.5ms or less (at 24VDC)	○
	ON → OFF	1.5ms or less (at 24VDC)	○
Wiring method for common	2 points per common (2 terminals) (screw terminal block 2-wire type)	2 points per common (2 terminals) (screw terminal block 2-wire type)	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be detected, so check that the voltage/current value at OFF is satisfied.

■ Specifications for output

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1XY4-DT1B2	BL296XB-08F (NPN type) BL296XB-08FS (PNP type)	
Output type	Transistor output (external I/O power supply) (NPN)	Transistor output (common with module power supply) (NPN)	—
Number of output points	2 points	4 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△*1
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*2
Maximum load current	0.1A/point, 0.2A/common	0.1A/point	○
Maximum inrush current	0.4A/10ms	—	—
Leakage current at OFF	0.1mA or lower/30VDC	0.1A or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Response time	OFF → ON	1.0ms or less	○
	ON → OFF	1.0ms or less	○
Surge suppressor	Zener diode	—	△*3
Wiring method for common	2 points per common (2 terminals) (screw terminal block 2-wire type)	2 points per common (2 terminals) (screw terminal block 2-wire type)	△

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 Take measures against surge outside the module.

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■ Module specifications

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1XY4-DT1B2	BL296XB-08F (NPN type) BL296XB-08FS (PNP type)	
Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
Current consumption	55mA (at all points ON)	6mA (transmission side), 26mA (I/O side) (at all points ON)	○
Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	4 input points and 4 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	53.5mm × 80mm × 40mm	81mm × 28.9mm × 39.4mm	×*2
Weight	0.1kg	0.09kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	<ul style="list-style-type: none"> • BL296XB-08F: CE (EMC, RoHS), KC, China RoHS • BL296XB-08FS: CE (EMC, RoHS), China RoHS 	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 The module appearance differs.

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Specifications comparison with CL1XY8-DT1B2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

■ Specifications for input

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1XY8-DT1B2	BL296XB-08F (NPN type) BL296XB-08FS (PNP type)	
Number of input points	4 points	4 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated input voltage	24VDC	24VDC	○
Rated input current	Approx. 4mA	Approx. 3.5mA	○
Operating voltage range	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
Maximum number of simultaneous input points	100% (at 24VDC)	100%	△
ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	○
OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△*2
Input resistance	5.6kΩ	6.8kΩ	○
Response time	OFF → ON	1.5ms or less (at 24VDC)	○
	ON → OFF	1.5ms or less (at 24VDC)	○
Wiring method for common	4 points per common (2 terminals) (screw terminal block 2-wire type)	2 points per common (2 terminals) (screw terminal block 2-wire type)	○
Input type	Positive (NPN)/negative (PNP) common shared type	• BL296XB-08F (NPN type) • BL296XB-08FS (PNP type)	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be detected, so check that the voltage/current value at OFF is satisfied.

■ Specifications for output

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1XY8-DT1B2	BL296XB-08F (NPN type) BL296XB-08FS (PNP type)	
Output type	Transistor output	Transistor output (common with module power supply)	△
Number of output points	4 points	4 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△*1
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*2
Maximum load current	0.1A/point, 0.4A/common	0.1A/point	○
Maximum inrush current	0.4A/10ms	—	—
Leakage current at OFF	0.1mA or lower	0.1A or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Response time	OFF → ON	1.0ms or less	○
	ON → OFF	1.0ms or less	○
Wiring method for common	4 points per common (2 terminals) (screw terminal block 2-wire type)	2 points per common (2 terminals) (screw terminal block 2-wire type)	○

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

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■ Module specifications

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1XY8-DT1B2	BL296XB-08F (NPN type) BL296XB-08FS (PNP type)	
Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
Current consumption	65mA (at all points ON)	6mA (transmission side), 26mA (I/O side) (at all points ON)	○
Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	4 input points and 4 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	53.5mm × 80mm × 40mm	81mm × 28.9mm × 39.4mm	×*2
Weight	0.1kg	0.09kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	BL296XB-08F: CE (EMC, RoHS), KC, China RoHS BL296XB-08FS: CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 The module appearance differs.

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Spring clamp terminal block type

Specifications comparison with CL1X4-D1S2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1X4-D1S2	BL296SB-08F-3 (NPN type) BL296SB-08FS-3 (PNP type)	
Number of input points	4 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Input type	DC input (external power supply for input part)	DC input	○
Rated input voltage	24VDC	24VDC	○
Rated input current	Approx. 4mA	Approx. 3.5mA	○
Operating voltage range	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum number of simultaneous input points	100% (at 24VDC)	100%	○
ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	○
OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△ ^{*2}
Input resistance	5.6kΩ	6.8kΩ	○
Input type	Positive (NPN)/negative (PNP) common shared type	• BL296SB-08F-3 (NPN type) • BL296SB-08FS-3 (PNP type)	△
Response time	OFF → ON	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/1.5ms)	1ms or less △ ^{*3}
	ON → OFF	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/1.5ms)	1ms or less △ ^{*3}
Wiring method for common	4 points per common (4 terminals) (screw terminal block 2-wire type)	8 points per common (8 terminals) (screw terminal block 2-wire type)	○
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower △ ^{*1}
	Current consumption	40mA (at all points ON)	6mA (transmission side), 40mA (I/O side) (at all points ON) ○
	Current at startup	70mA	— —
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	8 input points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	53.5mm × 69mm × 40mm	81mm × 28.9mm × 39.4mm	× ^{*4}
Weight	0.09kg	0.06kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be detected, so check that the voltage/current value at OFF is satisfied.

*3 Check that the timing includes the transmission delay time.

*4 The module appearance differs.

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Specifications comparison with CL2X8-D1S2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications			Compatibility
		Model to be discontinued		Alternative model	
		CL2X8-D1S2		BL296SB-08F-3 (NPN type) BL296SB-08FS-3 (PNP type)	
Number of input points		8 points		8 points	○
Insulation method		Photocoupler		Photocoupler	○
Rated input voltage		24VDC		24VDC	○
Rated input current		Approx. 4mA		Approx. 3.5mA	○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum number of simultaneous input points		100%		100%	○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher	○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower	△ ^{*2}
Input resistance		5.6kΩ		6.8kΩ	○
Input type		Positive (NPN)/negative (PNP) common shared type		• BL296SB-08F-3 (NPN type) • BL296SB-08FS-3 (PNP type)	△
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—	—
	OFF → ON	TYP.	0.05ms	—	—
		MAX.	0.1ms	1.5ms	1ms
	ON → OFF	TYP.	0.2ms	—	—
MAX.		0.5ms	1.5ms	1ms	△ ^{*3}
Wiring method for common		8 points per common (8 terminals) (screw terminal block 2-wire type)		8 points per common (8 terminals) (screw terminal block 2-wire type)	○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
	Current consumption	40mA (24VDC, all points ON)		6mA (transmission side), 40mA (I/O side) (at all points ON)	△
	Current at startup	70mA or lower (at 24VDC)		—	—
Number of occupied stations		• 4-point mode: 2 stations occupied • 8-point mode, 16-point mode: 1 station occupied		8 input points are occupied.	—
Protection degree		IP2X		—	—
External dimensions (W × H × D)		69mm × 49mm × 40mm		81mm × 28.9mm × 39.4mm	× ^{*4}
Weight		0.12kg		0.06kg	○
Applicable standards		UL/cUL, CE (EMC, RoHS), EAC, China RoHS		CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

*4 The module appearance differs.

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Specifications comparison with CL1Y4-T1S2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1Y4-T1S2	BL296PB-08FS-3	
Number of output points	4 points	8 points	○
Output type	Transistor output (load power supply) (NPN)	Transistor output (NPN)	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△ ^{*1}
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
Maximum load current	0.1A/point, 0.4A/common	0.1A/point, 0.8A/common	○
Maximum inrush current	0.4A/10ms	—	—
Leakage current at OFF	0.1mA or lower/30VDC	0.1mA or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Response time	OFF → ON	1.0ms or less	○
	ON → OFF	1.0ms or less	○
Surge suppressor	Zener diode	—	△ ^{*3}
Wiring method for common	4 points per common (4 terminals) (screw terminal block 2-wire type)	8 points per common (8 terminals) (screw terminal block 2-wire type)	○
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower △ ^{*2}
	Current consumption	60mA (at all points ON)	6mA (transmission side), 10mA (I/O side) (at all points ON) ○
	Current at startup	70mA	— —
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	53.5mm × 69mm × 40mm	81mm × 28.9mm × 39.4mm	× ^{*4}
Weight	0.09kg	0.07kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), China RoHS	△

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 Take measures against surge outside the module.

*4 The module appearance differs.

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Specifications comparison with CL2Y8-TP1S2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2Y8-TP1S2	BL296PB-08F-3	
Number of output points	8 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△ ^{*1}
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
Maximum load current	0.1A/point, 0.8A/common	0.1A/point, 0.8A/common	○
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Output type	Sink (NPN) type	NPN	○
Response time	OFF → ON	0.5ms or less	△ ^{*3}
	ON → OFF	0.5ms or lower (resistance load)	△ ^{*3}
Surge suppressor	Zener diode	—	△ ^{*4}
Wiring method for common	8 points per common (8 terminals) (screw terminal block 2-wire type)	8 points per common (8 terminals) (screw terminal block 2-wire type)	○
External power supply for output part	Voltage	10.2 to 28.8VDC Ripple ratio: within 5%	△ ^{*2*5}
	Current consumption	15mA or lower (24VDC, all points ON) External load current is excluded.	—
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	△ ^{*2}
	Current consumption	40mA (24VDC, all points ON)	○
	Current at startup	70mA (at 24VDC)	—
Number of occupied stations	• 4-point mode: 2 stations occupied • 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	69mm × 49mm × 40mm	81mm × 28.9mm × 39.4mm	× ^{*6}
Weight	0.12kg	0.06kg	○
Applicable standards	UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS	CE (EMC, RoHS), China RoHS	△

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 Check that the timing includes the transmission delay time.

*4 Take measures against surge outside the module.

*5 The wiring of the power supply differs. Review the wiring.

*6 The module appearance differs.

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Specifications comparison with CL2Y8-TPE1S2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2Y8-TPE1S2	BL296PB-08FS-3	
Number of output points	8 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△ ^{*1}
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
Maximum load current	0.1A/point, 0.8A/common	0.1A/point, 0.8A/common	○
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○
Maximum voltage drop at ON	0.1V or lower (TYP.) at 0.1A 0.2V or lower (MAX.) at 0.1A	—	—
Output type	Source type (PNP)	PNP	○
Response time	OFF → ON	1.0ms or less	○
	ON → OFF	1.0ms or lower (resistance load)	○
Surge suppressor	Zener diode	—	△ ^{*3}
Wiring method for common	8 points per common (8 terminals) (screw terminal block 2-wire type)	8 points per common (8 terminals) (screw terminal block 2-wire type)	○
External power supply for output part	Voltage	10.2 to 28.8VDC Ripple ratio: within 5%	Common with module power supply △ ^{*2*4}
	Current consumption	10mA or lower (24VDC, all points ON) External load current is excluded.	8mA (I/O side) (at all points ON)
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower △ ^{*2}
	Current consumption	40mA (24VDC, all points ON)	5mA (transmission side) (at all points ON)
	Current at startup	70mA (at 24VDC)	—
Number of occupied stations	<ul style="list-style-type: none"> • 4-point mode: 2 stations occupied • 8-point, 16-point mode: 1 station occupied 	8 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	69mm × 49mm × 40mm	81mm × 28.9mm × 39.4mm	× ^{*5}
Weight	0.13kg	0.04kg	○
Applicable standards	UL/cUL, CE (EMC, RoHS), EAC, China RoHS	CE (EMC, RoHS), China RoHS	△

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 Take measures against surge outside the module.

*4 The wiring of the power supply differs. Review the wiring.

*5 The module appearance differs.

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Sensor connector type (e-CON)

Specifications comparison with CL1X4-D1C3

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1X4-D1C3	BL296SB-04F-4PA-20	
Number of input points	4 points	4 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated input voltage	24VDC	24VDC	○
Rated input current	Approx. 4mA	Approx. 3.5mA	○
Operating voltage range	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum number of simultaneous input points	100% (at 24VDC)	100%	○
ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	△
OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△ ^{*2}
Input resistance	5.6kΩ	6.8kΩ	○
Response time	OFF → ON	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/ 1.5ms)	1ms or less △ ^{*3}
	ON → OFF	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/ 1.5ms)	1ms or less △ ^{*3}
Wiring method for common	4 points per common (e-CON 3-wire type)	4 points per common (e-CON 3-wire type)	○
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower △ ^{*1}
	Current consumption	35mA (at all points ON)	5mA (transmission side), 22mA (I/O side) (at all points ON) ○
	Current at startup	70mA	— —
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	4 input points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	53.5mm × 69mm × 40mm	80.8mm × 27mm × 37.7mm	× ^{*4}
Weight	0.04kg	0.035kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be detected, so check that the voltage/current value at OFF is satisfied.

*3 Check that the timing includes the transmission delay time.

*4 The module appearance differs.

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Specifications comparison with CL2X8-D1C3V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications				Compatibility
		Model to be discontinued		Alternative model		
		CL2X8-D1C3V		BL296SB-08F-4PA-20		
Number of input points		8 points		8 points		○
Insulation method		Photocoupler		Photocoupler		○
Rated input voltage		24VDC		24VDC		○
Rated input current		Approx. 4mA		Approx. 3.5mA		○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△*1
Maximum number of simultaneous input points		100% (at 24VDC)		100%		○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher		○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower		△*2
Input resistance		5.6kΩ		6.8kΩ		○
Input type		Positive common (NPN) type		NPN		○
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—		—
	OFF → ON	TYP.	0.05ms	—	—	
		MAX.	0.1ms	1.5ms	1ms	△*3
	ON → OFF	TYP.	0.2ms	—	—	
MAX.		0.5ms	1.5ms	1ms	△*3	
Wiring method for common		8 points per common (e-CON 3-wire type)		8 points per common (e-CON 3-wire type)		○
Maximum allowable current for I/O power supply		1.0A or lower/common		1.0A or lower/common		○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△*1
	Current consumption	40mA or lower (24VDC, all points ON) External load current is excluded.		6mA (transmission side), 40mA (I/O side) (at all points ON)		△
	Current at startup	70mA		—		—
Number of occupied stations		<ul style="list-style-type: none"> • 4-point mode: 2 stations occupied • 8-point mode, 16-point mode: 1 station occupied 		8 input points are occupied.		—
Protection degree		IP2X		—		—
External dimensions (W × H × D)		24mm × 85mm × 39mm		120mm × 24mm × 37.1mm		×*4
Weight		0.05kg		0.04kg		○
Applicable standards		UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS		CE (EMC, RoHS), China RoHS		△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

*4 The module appearance differs.

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Specifications comparison with CL2X16-D1C3V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications				Compatibility
		Model to be discontinued		Alternative model		
		CL2X16-D1C3V		BL296SB-16F-4PA-20		
Number of input points		16 points		16 points		○
Insulation method		Photocoupler		Photocoupler		○
Rated input voltage		24VDC		24VDC		○
Rated input current		Approx. 4mA		Approx. 3.5mA		○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△*1
Maximum number of simultaneous input points		100%		100%		○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher		○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower		△*2
Input resistance		5.6kΩ		6.8kΩ		○
Input type		Positive common (NPN) type		NPN		○
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—		—
	OFF → ON	TYP.	0.05ms	—	—	—
		MAX.	0.1ms	1.5ms	1ms	△*3
	ON → OFF	TYP.	0.2ms	—	—	—
MAX.		0.5ms	1.5ms	1ms	△*3	
Wiring method for common		16 points per common (e-CON 3-wire type)		16 points per common (e-CON 3-wire type)		○
Maximum allowable current for I/O power supply		1.0A or lower/common		1.0A or lower/common		○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△*1
	Current consumption	45mA or lower (24VDC, all points ON) External load current is excluded.		8mA (transmission side), 80mA (I/O side) (at all points ON)		△
	Current at startup	70mA or lower (at 24VDC)		—		—
Number of occupied stations		<ul style="list-style-type: none"> • 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied 		16 input points are occupied.		—
Protection degree		IP2X		—		—
External dimensions (W × H × D)		48mm × 85mm × 39mm		91mm × 43mm × 37.1mm		×*4
Weight		0.08kg		0.06kg		○
Applicable standards		UL/cUL, CE (EMC, RoHS), EAC, China RoHS		CE (EMC, RoHS), China RoHS		△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

*4 The module appearance differs.

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Specifications comparison with CL1Y4-T1C2

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL1Y4-T1C2	BL296PB-04F-4A-20		
Number of output points	4 points	4 points	○	
Output type	Transistor output (common with module power supply) (NPN)	Transistor output (NPN)	○	
Insulation method	Photocoupler	Photocoupler	○	
Rated load voltage	24VDC	24VDC	○	
Operating load voltage range	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}	
Maximum load current	0.1A/point, 0.4A/common	0.1A/point, 0.4A/common	○	
Maximum inrush current	0.4A/10ms	—	—	
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○	
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—	
Response time	OFF → ON	1.0ms or less	○	
	ON → OFF	1.0ms or less	○	
Surge suppressor	Zener diode	Zener diode	△ ^{*2}	
Wiring method for common	4 points per common (e-CON 2-wire type)	4 points per common (e-CON 2-wire type)	△ ^{*3}	
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
	Current consumption	60mA (at all points ON) External load current is excluded.	5mA (transmission side), 8mA (I/O side) (at all points ON)	○
	Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	4 output points are occupied.	—	
Protection degree	IP2X	—	—	
External dimensions (W × H × D)	53.5mm × 69mm × 40mm	80.8mm × 27mm × 37.7mm	× ^{*4}	
Weight	0.04kg	0.04kg	○	
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), KC, China RoHS	△	

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 Take measures against surge outside the module.

*3 The arrangement of some pins in the e-CON connector differs. Review the pin arrangement.

*4 The module appearance differs.

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Specifications comparison with CL2Y8-TP1C2V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2Y8-TP1C2V	BL296PB-08F-4A-20	
Number of output points	8 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	24VDC	24VDC	○
Operating load voltage range	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum load current	0.1A/point, 0.8A/common	0.1A/point, 0.8A/common	○
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Output type	Sink (NPN) type	NPN	○
Response time	OFF → ON	0.5ms or less	△ ^{*2}
	ON → OFF	0.5ms or lower (resistance load)	△ ^{*2}
Surge suppressor	Zener diode	—	△ ^{*3}
Wiring method for common	8 points per common (e-CON 2-wire type)	8 points per common (e-CON 2-wire type)	△ ^{*4}
External power supply for output part	Common with module power supply	Common with module power supply	○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	△ ^{*1}
	Current consumption	45mA or lower (at all points ON) External load current is excluded.	○
	Current at startup	70mA	—
Number of occupied stations	• 4-point mode: 2 stations occupied • 8-point, 16-point mode: 1 station occupied	8 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	24mm × 85mm × 39mm	120mm × 24mm × 37.1mm	× ^{*5}
Weight	0.05kg	0.04kg	○
Applicable standards	UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS	CE (EMC, RoHS), KC, China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 Check that the timing includes the transmission delay time.

*3 Take measures against surge outside the module.

*4 The arrangement of some pins in the e-CON connector differs. Review the pin arrangement.

*5 The module appearance differs.

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Specifications comparison with CL2Y16-TP1C2V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2Y16-TP1C2V	BL296PB-16F-4A-20	
Number of output points	16 points	16 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	24VDC	24VDC	○
Operating load voltage range	Common with module power supply	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum load current	0.1A/point, 1.6A/common	0.1A/point, 1.6A/common	○
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Output type	Sink (NPN) type	NPN	○
Response time	OFF → ON	0.5ms or less	△ ^{*2}
	ON → OFF	0.5ms or lower (resistance load)	△ ^{*2}
Surge suppressor	Zener diode	Zener diode	△ ^{*3}
Wiring method for common	16 points per common (e-CON 2-wire type)	16 points per common (e-CON 2-wire type)	△ ^{*4}
External power supply for output part	Common with module power supply	Common with module power supply	○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	△ ^{*1}
	Current consumption	55mA or lower (24VDC, all points ON) External load current is excluded.	○
	Current at startup	70mA or lower (at 24VDC)	—
Number of occupied stations	<ul style="list-style-type: none"> • 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied 	16 output points are occupied.	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	48mm × 85mm × 39mm	91mm × 43mm × 37.1mm	× ^{*5}
Weight	0.08kg	0.06kg	○
Applicable standards	UL/cUL, CE (EMC, RoHS), EAC, China RoHS	CE (EMC, RoHS), China RoHS	△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 Check that the timing includes the transmission delay time.

*3 Take measures against surge outside the module.

*4 The arrangement of some pins in the e-CON connector differs. Review the pin arrangement.

*5 The module appearance differs.

Specifications comparison with CL2XY16-DTP1C5V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

■ Specifications for input

Item		Specifications			Compatibility
		Model to be discontinued		Alternative model	
		CL2XY16-DTP1C5V		BL296XB-16F-4PA-20	
Number of input points		8 points		8 points	○
Insulation method		Photocoupler		Photocoupler	○
Rated input voltage		24VDC		24VDC	○
Rated input current		Approx. 4mA		Approx. 3.5mA	○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum number of simultaneous input points		100% (at 24VDC)		100%	○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher	○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower	△ ^{*2}
Input resistance		5.6kΩ		6.8kΩ	○
Input type		Positive common (NPN) type		NPN	○
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—	—
	OFF → ON	TYP.	0.05ms	—	—
		MAX.	0.1ms	1.5ms	1ms
	ON → OFF	TYP.	0.2ms	—	—
MAX.		0.5ms	1.5ms	1ms	△ ^{*3}
Wiring method for common		8 points per common (e-CON 3-wire type)		8 points per common (e-CON 3-wire type)	○
Maximum allowable current for I/O power supply		1.0A or lower/common		1.0A or lower/common	○

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

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■ Specifications for output

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2XY16-DTP1C5V	BL296XB-16F-4PA-20	
Number of output points	8 points	8 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	24VDC	24VDC	○
Operating load voltage range	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
Maximum load current	0.1A/point, 0.8A/common	0.1A/point, 0.8A/common	○
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1A or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Output type	Sink (NPN) type	NPN	○
Response time	OFF → ON	0.5ms or less	△*2
	ON → OFF	0.5ms or less (resistance load)	△*2
Surge suppressor	Zener diode	Zener diode	○*3
Wiring method for common	8 points per common (e-CON 2-wire type)	8 points per common (8 points) (e-CON 2-wire type)	△*4
External power supply for output part	Common with module power supply	Common with module power supply	○

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 Check that the timing includes the transmission delay time.

*3 Take measures against surge outside the module.

*4 The arrangement of some pins in the e-CON connector differs. Review the pin arrangement.

■ Module specifications

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL2XY16-DTP1C5V	BL296XB-16F-4PA-20		
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*1
	Current consumption	50mA or lower (24VDC, all points ON) External load current is excluded.	8mA (transmission side), 50mA (I/O side) (at all points ON)	△
	Current at startup	70mA or lower (at 24VDC)	—	—
Number of occupied stations	<ul style="list-style-type: none"> 4-point mode: 2 stations occupied 8-point, 16-point mode: 1 station occupied 	8 input points and +8 output points are occupied.	—	
Protection degree	IP2X	—	—	
External dimensions (W × H × D)	48mm × 85mm × 39mm	91mm × 43mm × 37.1mm	×*2	
Weight	0.08kg	0.06kg	○	
Applicable standards	UL/cUL, CE (EMC, RoHS), EAC, China RoHS	CE (EMC, RoHS), China RoHS	△	

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 The module appearance differs.

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MIL connector type

Specifications comparison with CL2X16-D1M1V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications				Compatibility
		Model to be discontinued		Alternative model		
		CL2X16-D1M1V		BL265SB-16F-2-20		
Number of input points		16 points		16 points		○
Insulation method		Photocoupler		Photocoupler		○
Rated input voltage		24VDC		24VDC		○
Rated input current		Approx. 4mA		Approx. 3.5mA		○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△ ^{*1}
Maximum number of simultaneous input points		62.5% (at 24VDC)		100%		○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher		○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower		△ ^{*2}
Input resistance		5.6kΩ		6.8kΩ		○
Input type		Positive common (NPN) type		NPN		○
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—		—
	OFF → ON	TYP.	0.05ms	—	—	
		MAX.	0.1ms	1.5ms	1ms	
	ON → OFF	TYP.	0.2ms	—	—	
MAX.		0.5ms	1.5ms	1ms		△ ^{*3}
Wiring method for common		16 points per common (MIL connector 1-wire type)		16 points per common (MIL connector 1-wire type)		△ ^{*4}
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△ ^{*1}
	Current consumption	45mA or lower (24VDC, all points ON)		6.6mA (transmission side), 76.8mA (I/O side) (at all points ON)		△
	Current at startup	70mA		—		—
Number of occupied stations		<ul style="list-style-type: none"> • 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied 		16 input points occupied		—
Protection degree		IP2X		—		—
External dimensions (W × H × D)		24mm × 85mm × 53mm		91mm × 38.5mm × 40.8mm		× ^{*5}
Weight		0.05kg		0.06kg		△
Applicable standards		UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS		CE (EMC, RoHS), KC, China RoHS		△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

*4 The pin arrangement of the power supply differs. Review the wiring.

*5 The module appearance differs.

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Specifications comparison with CL2X16-D1MJ1V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications				Compatibility
		Model to be discontinued		Alternative model		
		CL2X16-D1MJ1V		BL265SB-16F-2-20		
Number of input points		16 points		16 points		○
Insulation method		Photocoupler		Photocoupler		○
Rated input voltage		24VDC		24VDC		○
Rated input current		Approx. 4mA		Approx. 3.5mA		○
Operating voltage range		20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△ ^{*1}
Maximum number of simultaneous input points		62.5% (at 24VDC)		100%		○
ON voltage/ON current		19V or higher/3mA or higher		16V or higher/2.2mA or higher		○
OFF voltage/OFF current		11V or lower/1.7mA or lower		8V or lower/1mA or lower		△ ^{*2}
Input resistance		5.6kΩ		6.8kΩ		○
Input type		Positive common (NPN) type		NPN		○
Response time	Response time setting	0.5ms (high-speed response)	1.5ms (standard)	—		—
	OFF → ON	TYP.	0.05ms	—	—	
		MAX.	0.1ms	1.5ms	1ms	△ ^{*3}
	ON → OFF	TYP.	0.2ms	—	—	
MAX.		0.5ms	1.5ms	1ms	△ ^{*3}	
Wiring method for common		16 points per common (MIL connector 1-wire type)		16 points per common (MIL connector 1-wire type)		△ ^{*4}
Maximum allowable current for I/O power supply		1.0A or lower/common		1.0A or lower/common		○
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower		△ ^{*1}
	Current consumption	45mA or lower (24VDC, all points ON) External load current is excluded.		6.6mA (transmission side), 76.8mA (I/O side) (at all points ON)		△
	Current at startup	70mA or lower (at 24VDC)		—		—
Number of occupied stations		<ul style="list-style-type: none"> • 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied 		16 input points occupied		—
Protection degree		IP2X		—		—
External dimensions (W × H × D)		24mm × 85mm × 53mm		91mm × 38.5mm × 40.8mm		× ^{*5}
Weight		0.05kg		0.06kg		△
Applicable standards		UL/cUL, CE (EMC, RoHS), EAC, China RoHS		CE (EMC, RoHS), KC, China RoHS		△

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be recognized, so check that the voltage/current at OFF is the specified value or lower.

*3 When a module with 0.5ms setting (high-speed response) is replaced, the response time increases. Review the input timing. When a module with 1.5ms setting (high-speed response) is replaced, the response time is shorter. Check that there is no incorrect input due to noise.

*4 The pin arrangement of the power supply differs. Review the wiring.

*5 The module appearance differs.

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Specifications comparison with CL2Y16-TP1M1V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2Y16-TP1M1V	BL265PB-16F-2-20	
Number of output points	16 points	16 points	○
Insulation method	Photocoupler	Photocoupler	○
Rated load voltage	12/24VDC	24VDC	△*1
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*2
Maximum load current	0.1A/point, 1.6A/common	0.1A/point, 1A/common	△*3
Maximum inrush current	0.7A or less, 10ms or lower	—	—
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—
Output type	Sink (NPN) type	NPN	○
Response time	OFF → ON	0.5ms or less	△*4
	ON → OFF	0.5ms or lower (resistance load)	△*4
Surge suppressor	Zener diode	Zener diode	△*5
Wiring method for common	16 points per common (MIL connector 1-wire type)	16 points per common (MIL connector 1-wire type)	△*6
External power supply for output part	Voltage	10.2 to 28.8VDC Ripple ratio: within 5%	△*2*7 Common with module power supply 21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower
	Current consumption	15mA or lower (24VDC (TYP.), all points ON) External load current is excluded.	— Common with module power supply
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	△*2 21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower
	Current consumption	50mA or lower (24VDC, all points ON)	○ 8.5mA (transmission side), 8mA (I/O side) (at all points ON)
	Current at startup	70mA	—
Number of occupied stations	<ul style="list-style-type: none"> • 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied 	16 input points occupied	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	24mm × 85mm × 53mm	91mm × 38.5mm × 40.8mm	×*8
Weight	0.05kg	0.06kg	△
Applicable standards	UL/cUL, CE (EMC, RoHS), KC, EAC, China RoHS	CE (EMC, RoHS), KC, China RoHS	△

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 The amount of current that flows per common decreases. Check the common current.

*4 Check that the timing includes the transmission delay time.

*5 Take measures against surge outside the module.

*6 The wiring method differs. Review the wiring.

*7 The wiring of the power supply differs. Review the wiring.

*8 The module appearance differs.

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Specifications comparison with CL2Y16-TP1MJ1V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL2Y16-TP1MJ1V	BL265PB-16F-2-20		
Number of output points	16 points	16 points	○	
Insulation method	Photocoupler	Photocoupler	○	
Rated load voltage	24VDC	24VDC	○	
Operating load voltage range	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}	
Maximum load current	0.1A/point, 1.6A/common	0.1A/point, 1A/common	△ ^{*2}	
Maximum inrush current	0.7A or less, 10ms or lower	—	—	
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○	
Maximum voltage drop at ON	0.3V or lower (TYP.) at 0.1A 0.6V or lower (MAX.) at 0.1A	—	—	
Output type	Sink (NPN) type	NPN	○	
Response time	OFF → ON	0.5ms or less	△ ^{*3}	
	ON → OFF	0.5ms or less (resistance load)	△ ^{*3}	
Surge suppressor	Zener diode	Zener diode	△ ^{*4}	
Wiring method for common	16 points per common (MIL connector 1-wire type)	16 points per common (MIL connector 1-wire type)	△ ^{*5}	
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	
	Current consumption	55mA or lower (24VDC, all points ON) External load current is excluded.	8.5mA (transmission side), 8mA (I/O side) (at all points ON)	○
	Current at startup	70mA or lower (at 24VDC)	—	—
Number of occupied stations	<ul style="list-style-type: none"> • 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied 	16 input points occupied	—	
Protection degree	IP2X	—	—	
External dimensions (W × H × D)	24mm × 85mm × 53mm	91mm × 38.5mm × 40.8mm	× ^{*6}	
Weight	0.05kg	0.06kg	△	
Applicable standards	UL/cUL, CE (EMC, RoHS), EAC, China RoHS	CE (EMC, RoHS), KC, China RoHS	△	

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 The amount of current that flows per common decreases. Check the common current.

*3 Check that the timing includes the transmission delay time.

*4 Take measures against surge outside the module.

*5 The wiring method differs. Review the wiring.

*6 The module appearance differs.

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Specifications comparison with CL2Y16-TPE1M1V

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL2Y16-TPE1M1V	BL265PB-16FS-2-20		
Number of output points	16 points	16 points	○	
Insulation method	Photocoupler	Photocoupler	○	
Rated load voltage	12/24VDC	24VDC	△ ^{*1}	
Operating load voltage range	10.2 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}	
Maximum load current	0.1A/point, 1.6A/common	0.1A/point, 1A/common	△ ^{*3}	
Maximum inrush current	0.7A or less, 10ms or lower	—	—	
Leakage current at OFF	0.1mA or lower	0.1mA or lower	○	
Maximum voltage drop at ON	0.1V or lower (TYP.) at 0.1A 0.2V or lower (MAX.) at 0.1A	—	—	
Output type	Source type (PNP)	PNP	○	
Response time	OFF → ON	1.0ms or less	○	
	ON → OFF	1.0ms or lower (resistance load)	○	
Surge suppressor	Zener diode	Zener diode	△ ^{*4}	
Wiring method for common	16 points per common (MIL connector 1-wire type)	16 points per common (MIL connector 1-wire type)	△ ^{*5}	
External power supply for output part	Voltage	10.2 to 28.8VDC Ripple ratio: within 5%	Common with module power supply 21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2*6}
	Current consumption	15mA or lower (24VDC (TYP.), all points ON) External load current is excluded.	Common with module power supply	—
Module power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
	Current consumption	50mA or lower (at all points ON)	8.5mA (transmission side), 8mA (I/O side) (at all points ON)	○
	Current at startup	70mA	—	—
Number of occupied stations	• 4-point mode: 4 stations occupied • 8-point mode: 2 stations occupied • 16-point mode: 1 station occupied	16 input points occupied	—	
Protection degree	IP2X	—	—	
External dimensions (W × H × D)	24mm × 85mm × 53mm	91mm × 38.5mm × 40.8mm	× ^{*7}	
Weight	0.05kg	0.06kg	△	
Applicable standards	UL/cUL, CE (EMC, RoHS), EAC, China RoHS	CE (EMC, RoHS), China RoHS	△	

*1 12VDC cannot be used.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 The amount of current that flows per common decreases. Check the common current.

*4 Take measures against surge outside the module.

*5 The wiring method differs. Review the wiring.

*6 The wiring of the power supply differs. Review the wiring.

*7 The module appearance differs.

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Cable

Specifications comparison with CL1X2-D1D3S

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL1X2-D1D3S	BL287SB-02F-CC20	
Number of input points	2 points	2 points	○
Input type	DC input (common with module power supply)	DC input	○
Insulation method	Photocoupler	Photocoupler	○
Rated input voltage	24VDC	24VDC	○
Rated input current	Approx. 4mA	Approx. 3.5mA	○
Operating voltage range	Common with module power supply	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*1}
Maximum number of simultaneous input points	100% (at 24VDC)	100% (at 24VDC)	○
ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	○
OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△ ^{*2}
Input resistance	5.6kΩ	6.8kΩ	△ ^{*3}
Response time	OFF → ON	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/ 1.5ms)	1ms or less △ ^{*4}
	ON → OFF	0.5ms/1.5ms or less (at 24VDC) Select using a DIP switch (default: OFF/ 1.5ms)	1ms or less △ ^{*4}
Wiring method for common	2 points per common (1 point)	2 points per common (1 point)	○
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower △ ^{*1}
	Current consumption	40mA (at all points ON) Input current is excluded.	3.4mA (transmission side), 11.2mA (I/O side) (at all points ON) ○
	Current at startup	70mA	— —
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	2 input points occupied	—
Protection degree	IP2X	—	—
External dimensions (W × H × D)	65mm × 20mm × 12mm	38mm × 17mm × 7.5mm	× ^{*5}
Weight	0.07kg (including 500mm each of CC-Link/ LT dedicated flat cable and I/O flat cable)	0.018kg	○
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), UL/cUL, KC, China RoHS	○

*1 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*2 OFF may not be detected, so check that the voltage/current value at OFF is satisfied.

*3 Check the input current, and check that the specifications for ON/OFF are satisfied.

*4 Check that the timing includes the transmission delay time.

*5 The module appearance differs.

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Specifications comparison with CL1Y2-T1D2S

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item	Specifications		Compatibility	
	Model to be discontinued	Alternative model		
	CL1Y2-T1D2S	BL287PB-02F-CC20		
Number of output points	2 points	2 points	○	
Output type	Transistor output (common with module power supply) (NPN)	Transistor output (common with module power supply) (NPN)	○	
Insulation method	Photocoupler	Photocoupler	○	
Rated load voltage	24VDC	24VDC	○	
Operating load voltage range	Common with module power supply	24VDC	○	
Maximum load current	0.1A/point, 0.2A/common	0.1A/point, 0.2A/common	○	
Maximum inrush current	0.4A, 10ms	—	—	
Leakage current at OFF	0.1mA or lower/30VDC	0.1mA	○	
Maximum voltage drop at ON	1V or lower (MAX.) at 0.1A	—	—	
Response time	OFF → ON	1.0ms or less	○	
	ON → OFF	1.0ms or less	○	
Surge suppressor	Zener diode	Zener diode	△ ^{*1}	
Wiring method for common	2 points per common (1 point)	2 points per common (1 point)	○	
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△ ^{*2}
	Current consumption	40mA (at all points ON) External load current is excluded.	3.5mA (transmission side), 8mA (I/O side) (at all points ON)	○
	Current at startup	70mA	—	—
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	2 input points occupied	—	
Protection degree	IP2X	—	—	
External dimensions (W × H × D)	65mm × 20mm × 12mm	38mm × 17mm × 7.5mm	× ^{*3}	
Weight	0.07kg (including 500mm each of CC-Link/LT dedicated flat cable and I/O flat cable)	0.018kg	○	
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), UL/cUL, KC, China RoHS	△	

*1 Take measures against surge outside the module.

*2 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*3 The module appearance differs.

Specifications comparison with CL1XY2-DT1D5S

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications		Compatibility	
		Model to be discontinued	Alternative model		
		CL1XY2-DT1D5S	BL287XB-02F-CC20		
Specifications for input	Number of input points	1 points	1 points	○	
	Insulation method	Photocoupler	Photocoupler	○	
	Input type	DC input (common with module power supply)	DC input	○	
	Rated input voltage	24VDC	24VDC	○	
	Rated input current	Approx. 4mA	Approx. 3.5mA	○	
	Maximum number of simultaneous input points	100% (at 24VDC)	100% (at 24VDC)	○	
	ON voltage/ON current	19V or higher/3mA or higher	16V or higher/2.2mA or higher	○	
	OFF voltage/OFF current	11V or lower/1.7mA or lower	8V or lower/1mA or lower	△*1	
	Input resistance	5.6kΩ	6.8kΩ	○	
	Response time	OFF → ON	1.5ms or less (at 24VDC)	1ms or less	△*2
		ON → OFF	1.5ms or less (at 24VDC)	1ms or less	△*2
Wiring method for common	1 point per common (independent terminal)	1 point per common (1 point)	○		
Specifications for output	Number of output points	1 points	1 points	○	
	Insulation method	Photocoupler	Photocoupler	○	
	Output type	Transistor output (common with module power supply) (NPN)	Transistor output (common with module power supply) (NPN)	○	
	Rated load voltage	24VDC	24VDC	○	
	Operating load voltage range	Common with module power supply	24VDC	○	
	Maximum load current	0.1A/point	0.1A/point	○	
	Maximum inrush current	0.4A/10ms	—	—	
	Leakage current at OFF	0.1mA or lower/30VDC	0.1mA	○	
	Maximum voltage drop at ON	1V or lower (MAX.) at 0.1A	—	—	
	Response time	OFF → ON	1.0ms or less	1.0ms or less	○
		ON → OFF	1.0ms or less	1.0ms or less	○
	Surge suppressor	Zener diode	Zener diode	△*3	
	Wiring method for common	1 point per common (independent terminal)	1 point per common (1 point)	○	
Module power supply	Voltage	20.4 to 28.8VDC (-15% to +20% at 24VDC) Ripple ratio: within 5%	21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△*4	
	Current consumption	40mA (at all points ON)	3.5mA (transmission side), 8.0mA (I/O side) (at all points ON)	○	
	Current at startup	70mA	—	—	
Number of occupied stations	4-point, 8-point, 16-point mode: 1 station occupied	1 input points and +1 output points are occupied.	—		
Protection degree	IP2X	—	—		
External dimensions (W × H × D)	65mm × 20mm × 12mm	38mm × 17mm × 7.5mm	×*5		
Weight	0.07kg (including 500mm each of CC-Link/LT dedicated flat cable and I/O flat cable)	0.018kg	○		
Applicable standards	CE (EMC, RoHS), UL/cUL, China RoHS	CE (EMC, RoHS), UL/cUL, KC, China RoHS	○		

*1 OFF may not be detected, so check that the voltage/current value at OFF is satisfied.

*2 Check that the timing includes the transmission delay time.

*3 Take measures against surge outside the module.

*4 Check the output voltage range of the power supply to be used and the voltage drop for the wire length.

*5 The module appearance differs.

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7.4 Analog Module

Analog input module

Specifications comparison with CL2AD4-B

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications		Compatibility
		Model to be discontinued	Alternative model	
		CL2AD4-B	LA-A12W (master module) LB-A12W (slave module)	
Analog input	Voltage	-10 to 10VDC (input resistance: 1MΩ)	0 to 10VDC (input resistance: 100kΩ or higher)	△ ^{*1}
	Current	0 to 20mA at DC (input resistance: 250Ω)	0 to 20mA at DC (input resistance: 250Ω ±5%)	○
Digital output		-4096 to 4095	0 to 16000	△ ^{*2}
I/O characteristics, resolution	Input range	Digital output (maximum resolution)	Digital output (maximum resolution)	—
	-10 to 10V	-4000 to 4000 (2.5mV)	—	× ^{*1}
	0 to 10V	0 to 4000 (2.5mV)	0 to 16000 (625μV)	○ ^{*3}
	0 to 5V	0 to 4000 (1.25mV)	0 to 16000 (312.5μV)	○ ^{*3}
	1 to 5V	0 to 4000 (1.0mV)	0 to 16000 (250μV)	○ ^{*3}
	0 to 20mA	0 to 4000 (5μA)	0 to 16000 (1250nA)	○ ^{*3}
Accuracy (for maximum digital output value)	Ambient temperature: 25 ±5°C	±0.2% (±8 digits)	±0.1% (±16 digits)	○
	Ambient temperature: 0 to 55°C	±0.4% (±16 digits)	±0.2% (±32 digits)	○
	Temperature coefficient	±80ppm/°C (±0.0080%/°C)	—	—
Conversion speed		200μs/4 channels Channel using a primary delay filter: 400μs	16ms	× ^{*4}
Absolute maximum input		Voltage: ±15V Current: ±30mA	12V, 30mA	△ ^{*5}
Number of analog input channels		4 channels/module	1 point (15 slave modules can be extended to 1 master module.)	○ ^{*6}
Number of CC-Link/LT stations		Remote device station	—	—
Number of occupied stations		4 stations occupied in 16-point mode	16 points occupied	○
Insulation		☞ Page 52 Comparison of insulation specifications	☞ Page 52 Comparison of insulation specifications	○
Terminal block		Direct type 14-point terminal block (M3 screw)	e-CON (3P)	× ^{*7}
Applicable wire size		0.3 to 1.25mm ²	0.08 to 0.5mm ²	△ ^{*8}
Applicable solderless terminal		<ul style="list-style-type: none"> RAV1.25-3 (in compliance with JIS C 2805) V1.25-3 (JST Mfg. Co., Ltd.) R1.25-3, TGV1.25-3 (NICHIFU Co., Ltd.) 	☞ Page 52 Applicable wire for alternative models	× ^{*9}
Module installation method		<ul style="list-style-type: none"> Installation using a DIN rail Screw: M4 × 0.7mm × 16mm or larger Can be mounted in any of six orientations. 	<ul style="list-style-type: none"> Installation using a DIN rail Cannot be installed using screws. Can be installed in any orientations. 	△ ^{*10}
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (in compliance with JIS C 2812 and IEC 60715)	TH35-7.5Fe, TH35-7.5Al (in compliance with JIS C 2812 and IEC 60715)	○
External power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%	21.6 to 27.6VDC	△
	Current consumption	70mA	10mA	○
	Current at startup	570mA	—	—
Protection degree		IP2X	—	—

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Item	Specifications		Compatibility
	Model to be discontinued	Alternative model	
	CL2AD4-B	LA-A12W (master module) LB-A12W (slave module)	
External dimensions (W × H × D)	69mm × 49mm × 40mm	<ul style="list-style-type: none"> LA-A12W (master module): 9.9mm × 36.7mm × 72mm LB-A12W (slave module): 9.9mm × 36.7mm × 72mm 	△ ^{*11}
Weight	0.15kg	<ul style="list-style-type: none"> LA-A12W (master module): 0.021kg LB-A12W (slave module): 0.016kg 	○
Applicable standards	CE (EMC, RoHS), UL/cUL, KC, EAC, China RoHS	China RoHS	△
A/D conversion enable/disable function	Specifies whether to enable or disable the A/D conversion for each channel.	—	×
Input range changing function	Sets the analog input range for each channel.	Sets the analog input range for each channel.	○
A/D conversion method	Sets the A/D conversion method for each channel.	Sets the A/D conversion method for each channel.	—
	Moving average (8 times fixed)	Moving average (1 to 32 times)	○
	Count average (10 times fixed)	—	×
	Primary delay filter (800μ, 10ms, 50ms)	—	×
Fast response processing (sampling processing)	Fast response processing (sampling processing)	Fast response processing (moving average: 1 time)	○
	—	The conversion operation is started using the value set in variable 1 as the reference point.	—
Reference point shift mode	—	The conversion operation is started using the value set in variable 1 as the reference point.	—
Voltage drop detection	—	Available	—
Seven-segment display	—	Available	—
Input error detection	—	Input lower limit exceeded Input higher limit exceeded Analog port open, disconnection: digital value - 200	—

- *1 A negative voltage cannot be used.
- *2 Correct programs because the resolution differs.
- *3 Smaller maximum resolution allows finer control.
- *4 The conversion speed is slower. Check the specifications.
- *5 The absolute maximum input voltage is lower. Check the specifications.
- *6 When using 2 or more channels, use multiple slave modules.
- *7 The terminal block differs. Change the terminals.
- *8 Applicable wire size differs.
- *9 Connectors are used instead of solderless terminals. Change the terminals to be used.
- *10 The module cannot be installed using screws.
- *11 The external dimensions are larger. The external dimensions of an alternative slave module indicate the dimensions when the module is fitted with a master module.

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■ Comparison of insulation specifications

Insulated area	Model to be discontinued			Alternative model		
	CL2AD4-B			LA-A12W (master module) LB-A12W (slave module)		
	Insulation method	Withstand voltage	Insulation resistance	Insulation method	Withstand voltage	Insulation resistance
Between communication system and analog inputs	Photocoupler Transformer	500VAC for 1 minute	500VDC, 10MΩ or higher	Non-insulation	—	—
Between power supply system and analog inputs						
Between communication system and power supply system						
Between channels	Non-insulation	—	—			

■ Applicable wire for alternative models

Product number	Applicable wire			
	AWG	Nominal cross sectional area (mm ²)	Finished outer diameter (φmm)	Manufacturer
37103-4080-G00 FL	26 to 28	0.08 to 0.14 or smaller	0.6 to 0.8	3M Japan Limited
37103-4101-G00 FL			0.8 to 1.0	
37103-3080-000 FL	24 to 26	0.14 to 0.3 or smaller	0.6 to 0.8	
37103-3101-000 FL			0.8 to 1.0	
37103-3122-000 FL			1.0 to 1.2	
37103-3163-000 FL			1.2 to 1.6	
37103-2124-000 FL	20 to 22	0.3 to 0.5	1.0 to 1.2	
37103-2165-000 FL			1.2 to 1.6	
37103-2206-000 FL			1.6 to 2.0	

Analog output module

Specifications comparison with CL2DA2-B

○: Compatible, △: Some changes (must be checked), ×: Not compatible, —: Not covered

Item		Specifications			Compatibility
		Model to be discontinued		Alternative model	
		CL2DA2-B	Current output module LA-DA12W (master module) LB-DA12W (slave module)	Voltage output module LA-DV12W (master module) LB-DV12W (slave module)	
Digital input	Voltage	-4096 to 4095	—	0 to 16000	△ ^{*1}
	Current	-96 to 4095	0 to 16000	—	△ ^{*1}
Analog output	Voltage	-10 to 10VDC (external load resistance value: 1kΩ to 1MΩ)	—	0 to 10VDC (external load resistance value: 10kΩ or higher)	△ ^{*2}
	Current	0 to 20mA at DC (external load resistance value: 0 to 600Ω)	0 to 20mA at DC (external load resistance value: 250Ω or lower)	—	○
I/O characteristics, resolution	Output range	Digital input value (maximum resolution)	Digital input value (maximum resolution)	—	—
	-10 to 10V	-4000 to 4000 (2.5mV)	—	—	× ^{*2}
	0 to 10V	0 to 4000 (2.5mV)	—	0 to 16000 (625μV)	○ ^{*3}
	0 to 5V	0 to 4000 (1.25mV)	—	0 to 16000 (312.5μV)	○ ^{*3}
	1 to 5V	0 to 4000 (1.0mV)	—	0 to 16000 (250μV)	○ ^{*3}
	0 to 20mA	0 to 4000 (5μA)	0 to 16000 (1250nA)	—	○ ^{*3}
Accuracy (for maximum analog output value)	Ambient temperature: 25 ±5°C	±0.2%	±0.3%		× ^{*4}
	Ambient temperature: 0 to 55°C	±0.4%	±0.5%		× ^{*4}
	Temperature coefficient	±80ppm/°C (±0.0080%/°C)	—		—
Conversion speed	200μs/2 channels	8ms		× ^{*5}	
Output short circuit protection	Available	—		× ^{*6}	
Absolute maximum output	Voltage: ±12V Current: 21mA	Current: 22mA	Voltage: ±11V		△ ^{*7}
Number of analog output channels	2 channels/module	1 channel/module		× ^{*8}	
Number of CC-Link/LT stations	Remote device station	—		—	
Number of occupied stations	2 stations occupied in 16-point mode	16 points occupied		○	
Insulation	☞ Page 55 Comparison of insulation specifications	☞ Page 55 Comparison of insulation specifications			○
Terminal block	Direct type 14-point terminal block (M3 screw)	e-CON (3P)		× ^{*9}	
Applicable wire size	0.3 to 1.25mm ²	0.08 to 0.5mm ²		△ ^{*10}	
Applicable solderless terminal	<ul style="list-style-type: none"> RAV1.25-3 (in compliance with JIS C 2805) V1.25-3 (JST Mfg. Co., Ltd.) R1.25-3, TGV1.25-3 (NICHIFU Co., Ltd.) 	☞ Page 55 Applicable wire for alternative models		× ^{*11}	
Module installation method	<ul style="list-style-type: none"> Installation using a DIN rail Screw: M4 × 0.7mm × 16mm or larger Can be mounted in any of six orientations. 	<ul style="list-style-type: none"> Installation using a DIN rail Cannot be installed using screws. Can be installed in any orientations. 		△ ^{*12}	

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Item		Specifications			Compatibility	
		Model to be discontinued		Alternative model		
		CL2DA2-B		Current output module LA-DA12W (master module) LB-DA12W (slave module)		Voltage output module LA-DV12W (master module) LB-DV12W (slave module)
Applicable DIN rail		TH35-7.5Fe, TH35-7.5Al (in compliance with JIS C 2812 and IEC 60715)		TH35-7.5Fe, TH35-7.5Al (in compliance with JIS C 2812 and IEC 60715)	○	
External power supply	Voltage	20.4 to 28.8VDC Ripple ratio: within 5%		21.6 to 27.6VDC Ripple ratio: 0.5Vp-p or lower	△	
	Current consumption	170mA		<ul style="list-style-type: none"> • Transmission side (between DP and DN): 3.2mA • I/O side (between 24V and 0V): 31.1mA 	<ul style="list-style-type: none"> • Transmission side (between DP and DN): 3.2mA • I/O side (between 24V and 0V): 13.8mA 	○
	Current at startup	470mA		—	—	—
Protection degree		IP2X		—	—	
External dimensions (W × H × D)		69mm × 49mm × 40mm		<ul style="list-style-type: none"> • LA-D□12W (master module): 9.9mm × 36.7mm × 72mm • LB-D□12W (slave module): 9.9mm × 36.7mm × 72mm 	△ ^{*13}	
Weight		0.15kg		<ul style="list-style-type: none"> • LA-D□12W (master module): 0.021kg • LB-D□12W (slave module): 0.016kg 	○	
Applicable standards		CE (EMC, RoHS), UL/cUL, KC, EAC, China RoHS		China RoHS	△	
D/A conversion enable/disable function		Specifies whether to enable or disable the D/A conversion for each channel.		—	×	
D/A output enable/disable function		Specifies whether to enable or disable output of the D/A conversion value for each channel.		—	×	
Output range changing function		Sets the analog output range for each channel.		Sets the analog output range for each channel.	○	
Analog output HOLD/CLEAR function at communication cut off (HOLD/CLEAR setting)		Specifies whether to hold or clear the analog value output from each channel immediately before the D/A conversion is stopped by the interruption of communication with a CC-Link/LT master module or AJ65SBT-CLB. The settings are performed for all channels at once.		—	×	
Output status when disconnection between DP and DN or slave module voltage drop occurs		—		Specifies output status when disconnection between DP and DN or slave module voltage drop occurs.	—	
Adjusted offset/gain value setting function		—		Available	—	

*1 Correct programs because the resolution differs.

*2 A negative voltage cannot be used.

*3 Smaller maximum resolution allows finer control.

*4 The accuracy is degraded. Check the influence on the system.

*5 The conversion speed is slower. Check the specifications.

*6 No output short circuit protection.

*7 The absolute maximum output differs. Check the specifications.

*8 When using two or more channels, use two modules.

*9 The terminal block differs. Change the terminals.

*10 Applicable wire size differs.

*11 Connectors are used instead of solderless terminals. Change the terminals to be used.

*12 The module cannot be installed using screws.

*13 The external dimensions are larger. The external dimensions of an alternative slave module indicate the dimensions when the module is fitted with a master module.

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■ Comparison of insulation specifications

Insulated area	Model to be discontinued			Alternative model		
	CL2DA2-B			LA-DA12W (master module), LB-DA12W (slave module) LA-DV12W (master module), LB-DV12W (slave module)		
	Insulation method	Withstand voltage	Insulation resistance	Insulation method	Withstand voltage	Insulation resistance
Between communication system and analog outputs	Photocoupler Transformer	500VAC for 1 minute	500VDC, 10MΩ or higher	Digital insulation	500VAC for 1 minute	500VDC, 10MΩ or higher
Between power supply system and analog outputs				Non-insulation	—	—
Between communication system and power supply system				Digital insulation	500VAC for 1 minute	500VDC, 10MΩ or higher
Between channels	Non-insulation	—	—	Non-insulation	—	—

■ Applicable wire for alternative models

Product number	Applicable wire			
	AWG	Nominal cross sectional area (mm ²)	Finished outer diameter (φmm)	Manufacturer
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37103-3101-000 FL			0.8 to 1.0	
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37103-3163-000 FL			1.2 to 1.6	
37103-2124-000 FL	20 to 22	0.3 to 0.5	1.0 to 1.2	
37103-2165-000 FL			1.2 to 1.6	
37103-2206-000 FL			1.6 to 2.0	

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REVISIONS

Version	Date of Issue	Revision
A	January 2021	First edition
B	March 2022	Change of the schedule for discontinuing production of the LJ61CL12.

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