Item	Screw terminal models	Modular models	Compact modular models
	B7A-T6C1/-T6C6	B7A-T6D2/-T6D7	B7A-T6D7-D
Compatible inputs	Switches, two-wire sensors with DC output, 3-wire PNP sensors	TTLs, switches, 3-wire PNP sensors (see note 2)	TTLs, switches, 3-wire PNP sensors
Input logic	Active high		Active low
I/O delay time	B7A-T6C1: normal speed (typical 19.2 ms); B7A-T6C6: high speed (typical 3 ms)	B7A-T6D2: normal speed (typical 19.2 ms); B7A-T6D7: high speed (typical 3 ms)	---
Current consumption (see note 3)	120 mA max. with all input terminals ON	60 mA max. with all input terminals ON	
Operating voltage range	12 to 24 VDC		---
Input voltage range	0 VDC to supply voltage		
Input current range	3 to 6 mA/point	0.2 to 2 mA/point (input voltage: 5 to 24 VDC)	−1.1 to −0.5 mA/point (flowing out from terminals)
Minimum input time (see note 4)	B7A-T6C1: 16 ms; B7A-T6C6: 2.4 ms	B7A-T6D2: 16 ms; B7A-T6D7: 2.4 ms	2.4 ms
ON/OFF threshold	No-contact input: ON voltage: −4 V max. OFF voltage: −6 V min. Contact input: ON discrimination resistance: 660 Ω max. OFF discrimination resistance: 2 kΩ min.	ON voltage: 2.2 V min. OFF voltage: 0.8 V max.	ON voltage: 3 V max. OFF voltage: 6 V max.
Mounting strength	No damage when 49-N pull is applied for 1 min each in all directions (except in direction of DIN track)	---	---
Terminal strength	No damage when 49-N pull is applied each in all directions	---	---
Tightening torque	0.78 to 1.18 N • m	---	---
Weight	Approx. 160 g	Approx. 23 g	Approx. 25 g

Note:
1. If there is a possibility of noise interference from the power supply, input, and/or output lines, add appropriate noise protection circuits. Refer to *Noise Protection Circuits* on page 101 for details.
2. A 3-wire NPN sensor with a residual voltage of 0.8 V maximum and a built-in collector load can be used. In this case, however, when the output transistor of the sensor is ON, the B7A will be OFF.
3. Consumption when all 16 points are ON. Excludes external sensor current for Input Terminals.
4. The minimum input time is required for the B7A to read an input signal.
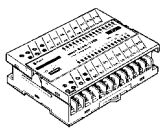
Output Models

Item	Screw terminal models (100 mA/point)		
	B7A-R6B11/-R6B16/ -R6B31/-R6B36	B7AS-R6B11/-R6B16/ -R6B31/-R6B36	B7A-R6F11/-R6F16/ -R6F31/-R6F36
Output configuration	NPN open collector		PNP open collector
I/O delay time	B7A□-R6□□1: normal speed (typical 19.2 ms); B7A□-R6□□6: high speed (typical 3 ms)		
Error processing	B7A□-R6□1□: HOLD; B7A□-R6□3□: LOAD OFF		
Current consumption (see note)	80 mA max. with all output terminals ON	120 mA max. with all output terminals ON	80 mA max. with all output terminals ON
Power supply voltage	12 to 24 VDC		
Rated load voltage	5 to 24 VDC		
Output residual voltage	0.8 V max.		
Output current	Sync. current, 100 mA max./ point		Source current, 100 mA max./ point
Mounting strength	No damage when 49-N pull is applied for 1 min each in all directions (except in direction of DIN track)		
Terminal strength	No damage when 49-N pull is applied each in all directions (except in direction of DIN track)		
Tightening torque	0.78 to 1.18 N • m		
Weight	Approx. 160 g	Approx. 130 g	Approx. 160 g

Note: Consumption when all 16 points are ON. Excludes external load current and error load current for Output Terminals.
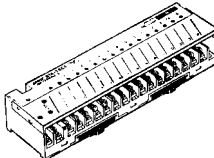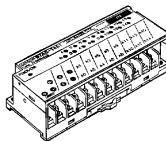
■ Product List
32-point Terminals
Screw Terminal Models

Appearance	Model	I/O classification	I/O configuration	I/O delay time (typical)	Internal I/O common	Error processing (see note 1)	Approved standards
	B7AS-T3BS	Input	NPN compatible	Normal speed 19.2 ms High speed 3 ms (switch selectable)	+/– common	---	U, CU, CE

16-point Terminals
Screw Terminal Models

Appearance	Model	I/O classification	I/O configuration	I/O delay time (typical)	Internal I/O common	Error processing (see note 1)	Approved standards
	B7A-T6A1 (see note 2)	Input	NPN compatible	Normal speed 19.2 ms	– common	---	U, C, CE
	B7A-T6B1 (see note 2)				+/– common	---	
	B7A-T6C1		PNP compatible		+/– common	---	
	B7A-T6A6 (see note 2)		NPN compatible	High speed 3 ms	– common	---	
	B7A-T6B6 (see note 2)				+/– common	---	
	B7A-T6C6		PNP compatible		+/– common	---	
	B7A-R6B11	Output	NPN open collector 100 mA/point	Normal speed 19.2 ms	+ common	HOLD	U, C, CE
	B7A-R6B31					LOAD OFF	
	B7A-R6C11		NPN open collector 500 mA/point (see note 3)			HOLD	CE
	B7A-R6C31					LOAD OFF	
	B7A-R6F11		PNP open collector 100 mA/point		– common	HOLD	U, C, CE
	B7A-R6F31					LOAD OFF	
	B7A-R6G11		PNP open collector 500 mA/point (see note 4)			HOLD	CE
	B7A-R6G31					LOAD OFF	
	B7A-R6B16		NPN open collector 100 mA/point	High speed 3 ms	+ common	HOLD	U, C, CE
	B7A-R6B36					LOAD OFF	
	B7A-R6C16		NPN open collector 500 mA/point (see note 3)			HOLD	CE
	B7A-R6C36					LOAD OFF	
	B7A-R6F16		PNP open collector 100 mA/point		– common	HOLD	U, C, CE
	B7A-R6F36					LOAD OFF	
	B7A-R6G16		PNP open collector 500 mA/point (see note 4)			HOLD	CE
	B7A-R6G36					LOAD OFF	
	B7AS-T6B1	Input	NPN compatible	Normal speed 19.2 ms	+/– common	---	U, CU, CE
	B7AS-T6B6			High speed 3 ms		---	
	B7AS-R6B11	Output	NPN open collector 100 mA/point	Normal speed 19.2 ms		HOLD	U, CU, CE
	B7AS-R6B31					LOAD OFF	
	B7AS-R6B16			High speed 3 ms		HOLD	
	B7AS-R6B36					LOAD OFF	

Note: 1. HOLD: The previous output condition will be on hold when an error results.
LOAD OFF: All outputs will be OFF when an error results.