

# Specifications

## General Specifications

Description	1766-L32AWA 1766-L32AWAA	1766-L32BWA 1766-L32BWAA	1766-L32BXB 1766-L32BXBA
Dimensions HxWxD	90 x 180 x 87 mm 3.5 x 7.087 x 3.43 in.		
Shipping weight	0.9 kg (2.0 lbs)		
Number of I/O	24 inputs (20 digital and 4 analog) and 14 outputs (12 digital and 2 analog)		
Power supply voltage	100...240V AC (-15%, +10%) @ 47...63 Hz		24V DC (-15%, +10%) Class 2 SELV
Heat dissipation	Refer to the MicroLogix 1400 Programmable Controllers User Manual, Publication <a href="#">1766-UM001</a> .		
Power supply inrush current	120V AC: 25 A for 8 ms 240V AC: 40A for 4 ms		24V DC: 15 A for 20 ms
Power consumption	100 VA	120 VA	50W 7.5W (with no 1762 expansion I/O)
24V DC sensor power	none	24V DC @ 250 mA 400 µF max.	none
Input circuit type	Digital: 120V AC  Analog: 0...10V DC	Digital: 24V DC sink/source (standard and high-speed) Analog: 0...10V DC	Digital: 24V DC sink/source (standard and high-speed) Analog: 0...10V DC
Output circuit type	Relay		Relay/FET
Relay life - Electrical	2 x 10 <sup>5</sup> operations min (2.5 A, 250V AC / 30V DC)		
Enclosure type rating	None (open-style)		
Wire size	0.25... 2.5 mm <sup>2</sup> (22...14 AWG) solid or stranded copper wire rated @ 90 °C (194 °F) or greater.		
Wiring category <sup>(1)</sup>	2 - on signal ports 2 - on power ports 3 - on communications ports		
Terminal screw torque	0.79 Nm (7.0 in-lb) rated		
Pilot duty rating	R300, C300		
Expansion bus	Supports up to seven 1762 modules, up to a maximum of 5V, 1500 mA and 24 V, 1500 mA.		
North American temp code	T3C		

<sup>(1)</sup> Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

## Specifications for Inputs

### Digital Inputs

Description	1766-L32AWA 1766-L32AWAA	1766-L32BWA, 1766-L32BWAA, 1766-L32BXB, 1766-L32BXBA	
		Inputs 0 through 11 (12 high-speed DC inputs)	Inputs 12 and higher (8 standard DC inputs)
On-state voltage range	79...132 V AC	4.5...24V DC, Class 2  (4.5...26.4V DC @ 60°C/140°F) (4.5...30V DC @ 30°C/86°F)	10...24V DC, Class 2  (10...26.4V DC @ 60°C/140°F) (10...30V DC @ 30°C/86°F)
Off-state voltage range	0...20 V AC	0...1.5V DC	0...5V DC
Operating frequency	47...63 Hz	0 Hz...100 kHz	0 Hz...1 kHz (scan time dependent)
On-state current min nom max	5.0 mA @ 79 V AC 12 mA @ 120 V AC 16.0 mA @ 132 V AC	7.1 mA @ 4.5V DC 9.9 mA @ 24V DC 10.5 mA @ 30V DC	3.2 mA @ 10V DC 5.3 mA @ 24V DC 5.5 mA @ 30V DC
Off-state leakage current	2.5 mA max.	0.2 mA max.	1.5 mA max.
Nominal impedance	12 k $\Omega$ @ 50 Hz 10 k $\Omega$ @ 60 Hz	2.4 k $\Omega$	4.5 k $\Omega$
Inrush current (max.) @ 120V AC	250 mA		

### Analog Inputs

Description	1766-L32AWAA, -L32BWAA, -L32BXBA
Voltage input range	0...10.0V DC - 1 LSB
Type of data	12-bit unsigned integer
Input coding (0...10.0V DC - 1 LSB)	0...4,095
Voltage input impedance	>199 k $\Omega$
Input resolution	12 bit
Non-linearity	$\pm$ 1.0% of full scale
Overall accuracy -20...60 °C (-4...140 °F)	$\pm$ 1.0% of full scale
Voltage input overvoltage protection	10.5 V DC
Field wiring to logic isolation	Non-isolated with internal logic

## Analog Outputs

Description	1766-L32AWAA, -L32BWAA, -L32BXBA
Number of inputs	2 single-ended
Voltage output range	0...10 V DC - 1 LSB
Type of data	12 bit unsigned integer
Step response	2.5 ms @ 95%
Load range Voltage output	1 K $\Omega$
Output resolution	12 bit
Analog output setting time	3 ms (max.)
Overall Accuracy -20...60 °C (-4...140 °F)	±1.0% of full scale
Electrical isolation	Non-isolated with internal logic
Cable length	30 m (98 ft) shielded cable

## Relay and FET Outputs

Description		1766-L32AWA, 1766-L32AWAA, 1766-L32BWA, 1766-L32BWAA	1766-L32BxB, 1766-L32BXBA
Maximum controlled load		1440 VA	1080 VA
<b>Maximum Continuous Current:</b>			
Current per channel and group common		2.5 A per channel 8A max channel 8...11 common	2.5 A per channel
Current per controller	at 150V max	28 A or total of per-point loads, whichever is less	
	at 240V max	20 A or total of per-point loads, whichever is less	

## Relay Outputs

Description	1766-L32AWA, 1766-L32AWAA, 1766-L32BWA, 1766-L32BWAA, 1766-L32BxB, 1766-L32BXBA
Turn On Time/Turn Off Time	10 ms (maximum) <sup>(1)</sup>
Load current	10 mA (minimum)

<sup>(1)</sup> Scan time dependent