MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ALLEN-BRADLEY

1756-PA72

AC CHASSIS POWER SUPPLY

Used with the applicable ControlLogix 1756 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Rockwell1756-TD005J-EN-P,11/2022;1756-PA72/C column,pp.3 to 4

Technical Data

Original Instructions

1756 ControlLogix Power Supplies Specifications

Standard Power Supplies	1756-PA72, 1756-PA72K, 1756-PA75, 1756-PA75K, 1756-PB72, 1756-PB72K, 1756-PB75, 1756-PB75K,1756-PC75, 1756-PH75
Standard Slim Power Supplies	1756-PA50, 1756-PA50K, 1756-PB50, 1756-PB50K
ControlLogix-XT Power Supplies	1756-PAXT, 1756-PBXT
ControlLogix-XT Slim Power Supplies	1756-PA30XT, 1756-PB30XT
Redundant Power Supplies	1756-PA75R, 1756-PA75RK, 1756-PB75R, 1756-PB75RK
Redundant Power Supplies Chassis Adapter	1756-PSCA2, 1756-PSCA2K
ControlLogix-XT Redundant Power Supplies	1756-PAXTR, 1756-PBXTR
ControlLogix-XT Redundant Power Supplies Chassis Adapter	1756-PSCA2XT
Redundant Power Supply Power Cable	1756-CPR2, 1756-CPR2D, 1756-CPR2U

Topic	Page
Summary of Changes	2
Standard AC Power Supplies	3
Standard DC Power Supplies	6
1756 ControlLogix-XT Power Supplies	9
Redundant Power Supplies	12
Power Load and Transformer Sizing	20
Additional Resources	23

Summary of Changes

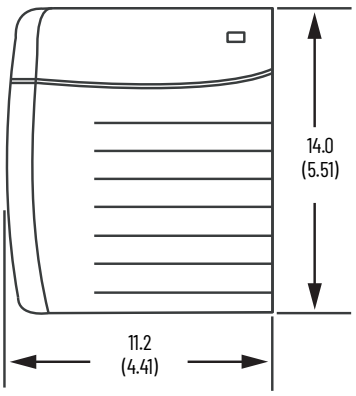
This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Updated or Added Operating Temperature Environmental Specifications	Throughout
Updated UKCA, Ex, UKEX, IECEx, and CCC Certification Information	Throughout

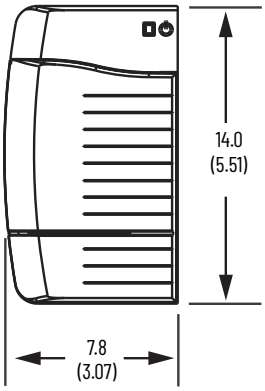
Standard AC Power Supplies

Mounting Dimensions

1756-PA72, 1756-PA72K, 1756-PA75, 1756-PA72K



1756-PA50, 1756-PA50K



Dimensions are in cm (in.).

Technical Specifications - Standard AC Power Supplies

Attribute	1756-PA50, 1756-PA50K	1756-PA72/C, 1756-PA72K/C	1756-PA75/B, 1756-PA75K/B
Input voltage range[1]	85...265V AC		
Input voltage, nom	120V/240V AC		
Input frequency range	47...63 Hz		
Input power, max	81 W/91VA @ 50 °C (122 °F) 68 W/77VA @ 60 °C (140 °F)	100VA/100 W	
Output power, max	60 W @ 0...50 °C (32...122 °F)[3] 50 W @ 0...60 °C (32...140 °F)[4]	75 W @ 0...60 °C (32...140 °F)[6]	
Inrush current, max	20 A		
Hold up time[2]	4 cycles @85...265V AC, 50/60 Hz, 60 W 5 cycles @85...265V AC, 50/60 Hz, 50 W	5 cycles @ 85V AC, 50/60 Hz 6 cycles @ 120V AC, 50/60 Hz 6 cycles @ 200V AC, 50/60 Hz 6 cycles @ 240V AC, 50/60 Hz	2 cycles @ 85V AC, 60 Hz 6 cycles @ 120V AC, 60 Hz 20 cycles @ 220V AC, 60 Hz
Current capacity @ 1.2V DC	1.5 A		
Current capacity @ 3.3V DC	2 A	4 A	
Current capacity @ 5.1V DC	8 A @ 50 °C (122 °F) 6 A @ 60 °C (140 °F)	10 A	13 A
Current capacity @ 24V DC	2.5 A @ 50 °C (122 °F) 2.0 A @ 60 °C (140 °F)	2.8 A	
Isolation voltage	250V (continuous), Reinforced Insulation Type, Power Input to Backplane Type tested @ 3150V DC for 60 s	250V (continuous), Reinforced Insulation Type, Power Input to Backplane Type tested at 3500V DC for 60 s	
Weight, approx	0.77 kg (1.7 lb)	0.95 kg (2.10 lb)	
Dimensions (HxWxD), approx	14.0 x 7.8 x 14.5 cm (5.51 x 3.07 x 5.71 in.)	14.0 x 11.2 x 14.5 cm (5.51 x 4.41 x 5.71 in.)	
Module location	Left side of 1756 chassis		
Chassis	1756-A4, 1756-A7, 1756-A10, 1756-A13, 1756-A17		
Chassis compatibility	Series A Series B Series C		Series B Series C
Wire size	2.5 mm^2 (14 AWG) solid or stranded copper wire that is rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max		
Wire category	1 - on power ports[5]		

Technical Specifications - Standard AC Power Supplies (Continued)

Attribute	1756-PA50, 1756-PA50K	1756-PA72/C, 1756-PA72K/C	1756-PA75/B, 1756-PA75K/B
Conductor screw torque	0.565 N•m (5 lb•in)		
North American temperature code	T4		
Enclosure type rating	None (open-style)		

(1) UL certification for 120/240V AC, 50/60 Hz nominal. Rockwell Automation specified 85…265V AC, 47…63 Hz.
(2) The hold up time is the time between input voltage removal and DC power failure.
(3) The combination of all output power (5.1V backplane, 24V backplane, 3.3V backplane, and 1.2V backplane) can't exceed 60 W @ 50 °C (122 °F) maximum temperature.
(4) The combination of all output power (5.1V backplane, 24V backplane, 3.3V backplane, and 1.2V backplane) can't exceed 50 W @ 60 °C (140 °F) maximum temperature.
(5) Use this conductor category information to plan conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.
(6) The combination of all output power (5.1V backplane, 24V backplane, 3.3V backplane, and 1.2V backplane) can't exceed 75 W.

Environmental Specifications - Standard AC Power Supplies

Attribute	1756-PA50, 1756-PA50K	1756-PA72/C, 1756-PA72K/C, 1756-PA75/B, 1756-PA75K/B
Temperature, operating IEC 60068-2-1 (Test Ae, Operating Cold), IEC 60068-2-2 (Test Be, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	0 °C < Ta < +60 °C (32 °F < Ta < 140 °F)	
Temperature, surrounding air, max	60 °C (140 °F)	
Temperature, nonoperating IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock)	-40…+85 °C (-40…+185 °F)	
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	5…95% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10…500 Hz	
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g	
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	50 g(1)	
Emissions	IEC 61000-6-4	
ESD immunity IEC 61000-4-2	6 kV contact discharges 8 kV air discharges	
Radiated RF immunity IEC 61000-4-3	10V/m with 1 kHz sine wave 80% AM from 80…2000 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz 3V/m with 1 kHz sine wave 80% AM from 2000…2700 MHz	
EFT/B immunity IEC 61000-4-4	±4 kV at 5 kHz on power ports	
Surge transient immunity IEC 61000-4-5	±1 kV line-line (DM) and ±2 kV line-earth (CM) on power ports	
Conducted RF immunity IEC 61000-4-6	10V rms with 1 kHz sine wave 80% AM from 150 kHz…80 MHz	
Voltage variation IEC 61000-4-11	30% dips for 1 period at 0° and 180° on AC supply ports 60% dips for 5 and 50 periods on AC supply ports ±10% fluctuations for 15 min on AC supply ports >95% interruptions for 250 periods on AC supply ports	
Damped oscillatory wave immunity IEC 61000-4-18	±2.5 kV line-line (DM) and ±2.5 kV line-earth (CM) on power ports	–

(1) Series C chassis have a maximum nonoperating shock value of 30 g. If you select a Series C chassis for use with your power supply, you're limited to a maximum nonoperating shock value of 30 g.