

1756 ControlLogix Power Supplies Specifications

Standard Chassis Catalog Numbers 1756-A4, 1756-A10, 1756-A13, 1756-A17

ControlLogix-XT Chassis Catalog Numbers 1756-A4LXT, 1756-A5XT, 1756-A7XLT, 1756-A7XT

Standard Power Supplies Catalog Numbers 1756-PA72, 1756-PA75, 1756-PB72, 1756-PB75, 1756-PC75, 1756-PH75

ControlLogix-XT Power Supplies Catalog Numbers 1756-PAXT, 1756-PBXT

Redundant Power Supplies Catalog Numbers 1756-PA75R, 1756-PB75R

Redundant Power Supplies Chassis Adapter Module Catalog Number 1756-PSCA2

ControlLogix-XT Redundant Power Supplies Catalog Numbers 1756-PAXTR, 1756-PBXTR

ControlLogix-XT Redundant Power Supplies Chassis Adapter Module Catalog Number 1756-PSCA2XT

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ControlLogix® power supplies are used with the 1756 chassis to provide 1.2V, 3.3V, 5V, and 24V DC power directly to the chassis backplane. Standard, ControlLogix-XT™, and redundant power supplies are available.







Summary of Changes

This manual contains new and updated information. Changes throughout this revision are marked by change bars, as shown to the left of this paragraph.

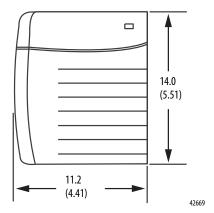
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Added Technical Specifications, Environmental Specifications, and Certifications tables for of Tables for ControlLogix-XT Redundant Power Supplies	15, 17
Updated the tables to include the ControlLogix-XT Redundant Power Supply Chassis Adapter	17

The following components were added to this technical data:

- ControlLogix-XT Redundant Power Supply (catalog number1756-PAXTR)
- ControlLogix-XT Redundant Power Supply (catalog number 1756-PBXTR)
- ControlLogix-XT Redundant Power Supply Chassis Adapter Module (catalog number 1756-PSCA2XT)
- Standard AC power supplies

Standard AC Power Supplies

1756-PA72 and 1756-PB75 Mounting Dimensions



Dimensions are in cm (in.).

Table 1 - Technical Specifications - Standard AC Power Supplies

	Attribute	1756-PA72/C	1756-PA75/B
•	Input voltage range ⁽¹⁾	85265V AC	
•	Input voltage, nom	120V/240V AC	
•	Input frequency range	4763 Hz	
•	Input power, max	100VA/100 W	
•	Output power, max	75 W @ 060 °C (32140 °F) ⁽³⁾	_
•	Power consumption	25 W @ 060 °C (32140 °F)	
•	Power dissipation	85.3 BTU/hr	

Table 1 - Technical Specifications - Standard AC Power Supplies

Attribute	1756-PA72/C	1756-PA75/B	
Hold-up time ⁽²⁾	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	6 cycles @ 120V AC, 50/60 Hz 6 cycles @ 200V AC, 50/60 Hz	
Inrush current, max	20 A		
Current capacity at 1.2V DC	1.5 A		
Current capacity at 3.3V DC	4 A		
Current capacity at 5.1V DC	10 A	13 A	
Current capacity at 24V DC	2.8 A		
Overcurrent protection, max	User-supplied 15 A ⁽⁴⁾		
Fusing	Non-replaceable fuse is soldered in place ⁽⁵⁾	Non-replaceable fuse is soldered in place ⁽⁵⁾	
Transformer load, max	100VA	100VA	
Isolation voltage		250V (continuous), reinforced insulation type Type tested @ 3500V DC for 60 s, power input-to-backplaneapprox	
Weight, approx	0.95 kg (2.10 lb)	0.95 kg (2.10 lb)	
Dimensions	14.0 x 11.2 x 14.5 cm (5.51 x 4.41 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, 1		
Chassis compatibility	Series A Series B	Series B	
Wire size	2.5 mm ² (14 AWG) solid or stranded coppe 90 °C (194 °F), or greater, 1.2 mm (3/64 in.	2.5 mm ² (14 AWG) solid or stranded copper wire rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max	
Wire category	1 - on power ports ⁽⁶⁾	1 - on power ports ⁽⁶⁾	
Conductor screw torque	0.8 N-m (7 lb-in)	0.8 N-m (7 lb-in)	
North American temperature code	T4	T4	
Enclosure type rating	None (open-style)	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) cannot exceed 75 W.
- (4) Use time-delay type overcurrent protection in all ungrounded conductors.
- (5) This fuse is intended to guard against fire hazard due to short circuit conditions.
- (6) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Table 2 - Environmental Specifications - Standard AC Power Supplies

Attribute	1756-PA72/C, 1756-PA75/B
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	060 °C (32140 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Temperature, non-operating 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)	-4085 °C (-40185 °F)
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	595% noncondensing
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10500 Hz
Shock, operating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	30 g

Table 2 - Environmental Specifications - Standard AC Power Supplies

Attribute	1756-PA72/C, 1756-PA75/B
Shock, nonoperating IEC 60068-2-27 (Test Ea, Unpackaged Shock)	50 g
Emissions CISPR 11 (IEC 61000-6-4)	Class A
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 802000 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 1kHz sine-wave 80% AM from 20002700 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 kHz80 MHz
Oscillatory surge withstand IEEE C37.90.1	3 kV
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

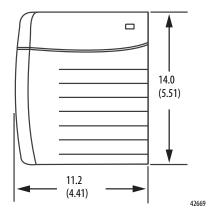
Table 3 - Certifications - Standard AC Power Supplies

Certification ⁽¹⁾	1756-PA72/C, 1756-PA75/B	
UL	UL Listed Industrial Control Equipment. See UL File E65584.	
CSA	CSA Certified Process Control Equipment. See CSA File LR54689C. CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations. See CSA File LR69960C.	
FM	FM Approved Equipment for use in Class I Division 2 Group A,B,C,D Hazardous Locations	
Œ	European Union 2004/108/EC EMC Directive, compliant with: EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2006/95/EC LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)	
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions	
КС	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3	

⁽¹⁾ When marked. See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.

Standard DC Power Supplies

1756-PB72, 1756-PB75, 1756-PC75, and 1756-PH75 Mounting Dimensions



Dimensions are in cm (in.).

Table 4 - Technical Specifications - Standard DC Power Supplies

Attribute	1756-PB72/C	1756-PB75/B	1756-PC75/B	1756-PH75/B
Input voltage range	1832V DC ⁽²⁾	1832V DC ⁽²⁾		90143V DC ⁽⁸⁾
Input voltage, nom	24V DC	24V DC		125V DC
Input power, max	95 W		1	
Output power, max	75 W @ 060 °C (32140	°F) ⁽³⁾		
Power consumption	20 W @ 060 °C (32140	°F)		
Power dissipation	68.2 BTU/hr			
Hold-up time ⁽¹⁾	35 ms @ 18V DC 40 ms @ 24V DC 40 ms @ 32V DC		50 ms @ 3060V DC nom	50 ms @ 90143V DC nom
Inrush current, max	30 A		20 A	
Current capacity at 1.2V	1.5 A			
Current capacity at 3.3V	4 A	4 A		
Current capacity at 5.1V	10 A	10 A 13 A		
Current capacity at 24V	2.8 A	2.8 A		
Overcurrent protection, max	User-supplied 15 A ⁽⁴⁾	User-supplied 15 A ⁽⁴⁾		
Fusing	Non-replaceable fuse is solde	Non-replaceable fuse is soldered in place ⁽⁵⁾		
Isolation voltage		250V (continuous), reinforced insulation type, power input-to-backplane Type tested @ 3500V DC for 60 s		
Weight, approx	0.95 kg (2.10 lb)	0.95 kg (2.10 lb)		
Dimensions	14.0 x 11.2 x 14.5 cm (5.51 x	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	Left side of 1756 chassis		
Chassis	1756-A4, 1756-A7, 1756-A10	1756-A4, 1756-A7, 1756-A10, 1756-A13, 1756-A17		
Chassis compatibility	Series A Series B			
Wire size	2.5 mm ² (14 AWG) solid or sti 90 °C (194 °F), or greater, 1.2	2.5 mm ² (14 AWG) solid or stranded copper wire rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max		
Wire category	1 - on power ports ⁽⁶⁾	1 - on power ports ⁽⁶⁾		

Table 4 - Technical Specifications - Standard DC Power Supplies

Attribute	1756-PB72/C	1756-PB75/B	1756-PC75/B	1756-PH75/B
Conductor screw torque	0.8 N•m (7 lb•in)			
North American temperature code	T4			
IEC temperature code	T4		N/A	
Enclosure type rating	None (open-style)			

- (1) The hold-up time is the time between input voltage removal and DC power failure.
- (2) UL certification for 24V DC nominal. Rockwell Automation specified 18...32V DC.
- (3) The combination of all output power (5.1V backplane, 24V backplane, 3.3V backplane, and 1.2V backplane) cannot exceed 75 W.
- (4) Use time-delay type overcurrent protection in all ungrounded conductors.
- (5) This fuse is intended to guard against fire hazard due to short circuit conditions.
- (6) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.
- 7) UL Certification for 48V DC nominal. Rockwell Automation specified 30...60V DC.
- (8) UL certification for 125V DC nominal. Rockwell Automation specified 90...143V DC.

Table 5 - Environmental Specifications - Standard DC Power Supplies

Attribute	1756-PB72/C, 1756-PB75/B	1756-PC75/B, 1756-PH75/B
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	060 °C (32140 °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)	-4085 °C (-40185 °F)	
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	595% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10500 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	
Emissions CISPR 11 (IEC 61000-6-4)	Class A	
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 802000 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 20002700 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 kHz80 MHz	
Oscillatory surge withstand IEEE C37.90.1	N/A	3 kV
Voltage variation IEC 61000-4-29	60% dips for 100 ms on DC supply ports 100% dips for 50 ms on DC supply ports ±20% fluctuations for 15 min on DC supply ports 5 s interruptions on DC supply ports 10 ms interruption on DC supply ports	

Table 6 - Certifications - Standard DC Power Supplies

Certification ⁽¹⁾	1756-PB72/C, 1756-PB75/B	1756-PC75/B, 1756-PH75/B
UL	N/A	UL Listed Industrial Control Equipment. See UL File E65584.
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for US and Canada. See UL File E194810.	N/A
CSA	CSA Certified Process Control Equipment. See CSA File LR54689C. CSA Certified Process Control Equipment for Class I, Division 2 Group A,B,C,D Hazardous Locations. See CSA File LR69960C.	
FM	FM Approved Equipment for use in Class I Division 2 Group A,B,C,D Hazardous Locations	N/A
Œ	European Union 2004/108/EC EMC Directive, compliant with: EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2006/95/EC LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)	
C-Tick	Australian Radiocommunications Act, compliant with: • AS/NZS CISPR 11; Industrial Emissions	
Ex	European Union 94/9/EC ATEX Directive, compliant with: • EN 60079-15; Potentially Explosive Atmospheres, Protection "n" • EN 60079-0; General Requirements • II 3 G Ex nA IIC T4 Gc X	N/A
КС	Korean Registration of Broadcasting and Communications Equipment, compliant with: • Article 58-2 of Radio Waves Act, Clause 3	

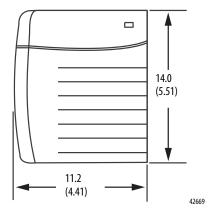
⁽¹⁾ When marked. See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.

1756 ControlLogix-XT Power Supplies

The ControlLogix-XT products include control and communication system components that, when used with FLEX I/O-XT 100 products, provide a complete control system solution that you can use in environments where temperatures range from -20...70 $^{\circ}$ C (-4...158 $^{\circ}$ F).

When used independently, the ControlLogix-XT system can withstand environments where the temperature ranges from -25...70 °C (-13...158 °F).

1756-PAXT and 1756-PBXT Mounting Dimensions



Dimensions are in cm (in.).

Table 7 - Technical Specifications - ControlLogix-XT Power Supplies

Attribute	1756-PAXT	1756-PBXT
Input voltage range	85265V AC ⁽²⁾	1832V DC
Input voltage, nom	120/240V AC	24V DC
Input frequency range	4763 Hz	N/A
Input power, max	82VA 64 W	54 W
Output power, max	42 W @ -2570 °C (-13158 °F)	
Power consumption	22 W	12 W
Power dissipation	75.1 BTU/hr	40.9 BTU/hr
Hold-up time ⁽¹⁾	6 cycles @ 85V AV, 50/60 Hz 6 cycles @ 120V AV, 50/60 Hz 6 cycles @ 200V AV, 50/60 Hz 6 cycles @ 240V AV, 50/60 Hz	35 ms @ 18V DC 40 ms @ 24V DC 40 ms @ 32V DC
Inrush current, max	20 A	30 A
Current capacity at 1.2V	1.5 A	
Current capacity at 3.3V	4 A	
Current capacity at 5.1V	8 A	
Current capacity at 24V	1.75 A	
Overcurrent protection, max	User-supplied 15 A ⁽³⁾	
Fusing	Non-replaceable fuse is soldered in place ⁽⁴⁾	
Isolation voltage	250V (continuous), reinforced insulation type, power input-to-backplane Type tested @ 3260V DC for 60 s	

Table 7 - Technical Specifications - ControlLogix-XT Power Supplies

Attribute	1756-PAXT	1756-PBXT
Weight, approx	0.95 kg (2.10 lb)	
Dimensions	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-A4LXT, 1756-A5XT, 1756-A7LXT, 1756-A7XT	
Wire size	2.5 mm 2 (14 AWG) solid or stranded copper wire rated at 90 °C (194 °F), or greater, 1.2 mm (3/64 in.) insulation max	
Wire category	1 - on power ports ⁽⁵⁾	
Conductor screw torque	0.8 N·m (7 lb·in)	
North American temperature code	T4	T4A
IEC temperature code	T4	
Enclosure type rating	None (open-style)	

- (1) The hold-up time is the time between input voltage removal and DC power failure.
- (2) UL certification for 120/240V AC, 50/60 Hz nominal. Rockwell Automation specified 85...265V AC, 47...63 Hz.
- (3) Use time-delay type overcurrent protection in all ungrounded conductors.
- (4) This fuse is intended to guard against fire hazard due to short circuit conditions.
- (5) Use this conductor category information for planning conductor routing as described in the system level installation manual. See the Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1.

Table 8 - Environmental Specifications - ControlLogix-XTPower Supplies

Attribute	1756-PAXT	1756-PBXT
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock)	-2570 °C (-13158 °F)	
Temperature, surrounding air, max	70 °C 158 °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)	-4085 °C (-40185 °F)	
Relative humidity IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)	595% noncondensing	
Vibration IEC 60068-2-6 (Test Fc, Operating)	2 g @ 10500 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	
Emissions CISPR 11 (IEC 61000-6-4)	Class A	
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 802000 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 900 MHz 10V/m with 200 Hz 50% Pulse 100% AM at 1890 MHz 3V/m with 1 kHz sine-wave 80% AM from 20002700 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 kHz80 MHz	

Table 8 - Environmental Specifications - ControlLogix-XTPower Supplies

Attribute	1756-PAXT	1756-PBXT
Oscillatory surge withstand IEEE C37.90.1	3 kV	N/A
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	N/A
Voltage variation IEC 61000-4-29	N/A	60% dips for 100 ms on DC supply ports 100% dips for 50 ms on DC supply ports ±20% fluctuations for 15 min on DC supply ports 5 s interruptions on DC supply ports 10 ms interruption on DC supply ports

Table 9 - Certifications - ControlLogix-XPowerT Supplies

Certification ⁽¹⁾	1756-PAXT, 1756-PBXT
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for US and Canada. See UL File E194810.
CE	European Union 2004/108/EC EMC Directive, compliant with: EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2006/95/EC LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions
Ex	European Union 94/9/EC ATEX Directive, compliant with: EN 60079-15; Potentially Explosive Atmospheres, Protection "n" EN 60079-0; General Requirements II 3 G Ex nA IIC T4 Gc X
КС	Korean Registration of Broadcasting and Communications Equipment, compliant with: • Article 58-2 of Radio Waves Act, Clause 3

⁽¹⁾ When marked. See the Product Certification link at http://www.ab.com for Declarations of Conformity, Certificates, and other certification details.