Submittal Review Sheet

Job:	**City of Chattanooga Big Ridge #2 Pump Station**	**Date Received:**	**10.28.25**
Job #	**017-24**	**Date Returned:**	**11.21.25**
Section/ Submittal:	**407859 / Submittal 050_Power Supplies**		

☐ APPROVED - NO EXCEPTIONS TAKEN

☒ APPROVED AS NOTED

☐ REJECTED

☐ REVISE AND RESUBMIT

☐ SUBMIT SPECIFIED ITEM

☐ MAKE CORRECTIONS NOTED

☐ RESUBMIT TO ENSURE CONFORMANCE

NOTIFICATIONS MADE ON SUBMITTALS DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS CHECK IS ONLY FOR REVIEW OF THE GENERAL CONFORMANCE WITH DESIGN CONCEPT AND INFORMATION GIVEN IN THE CONTRACT DOCUMENTS.

ADVANCED ENERGY ENGINEERING & DESIGN, INC.

BY ADW DATE 11.21.25

General Comments:

1. Confirm calculations for maximum power consumption as well as proper protection and cooling.

SUBMITTAL COVER PAGE

BRENNON CONSTRUCTION

Submittal No:	050
Spec Section:	40 78 59
Date Submitted:	10/24/25
Date Needed By:	10/31/25
Project No:	25-078

Contract No: W-20-09-201

Project Name: Big Ridge No.2 Pump Station Improvements

To: Stantec Consulting Services, Inc.

From: JBrennon Construction. Inc.

Submittal Name: Power Supplies

Submittal Source: RMJ Consulting

EOR Review Stamp:

Summary:

This is a submittal for the Power Supplies data sheets.

We hereby confirm that we have reviewed the submitted item for general compliance with the project specifications and drawings. This review does not extend to evaluating compatibility or constructability in relation to other separately submitted or future items. Acceptance of this submittal shall constitute acceptance of the item(s) as suitable for integration into the overall project without further coordination liability by the submitter.

Submitted for:

Approval ☑ Information ☐ Material Selection ☐ Other ☐

Attachments: 17 pages (including cover)

Submitted by: Trista Cooley (name)

UNO2-PS/1AC/24DC/240W - Power supply

1096432

https://www.phoenixcontact.com/us/products/1096432

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Primary-switched power supply unit, UNO POWER, Screw connection, DIN rail mounting, input: 1-phase, output: 24 V DC / 10 A, adjustable from 24 V DC ... 28 V DC

Product description

UNO POWER power supplies with basic functionality.
Thanks to their high power density, compact UNO POWER power supplies offer the ideal solution for loads up to 960 W, particularly in compact control boxes. The power supply units are available in various performance classes and overall widths. Their high degree of efficiency and low idling losses ensure a high level of energy efficiency.

Your advantages

- Save space in the control cabinet with an extremely narrow overall width of just 45 mm
- Save energy, thanks to a high degree of efficiency
- Outdoor installation possible, with a wide temperature range of -25°C … +70°C
- Simple output voltage monitoring, thanks to the floating DC OK relay contact

Technical data

Input data

AC operation

Supply system configuration	Star network (TN, TT, IT (PE))
Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	100 V AC ... 240 V AC -15 % ... +10 %
Derating	< 90 V AC (1 %/V)
Typical national grid voltage	120 V AC
	230 V AC
Voltage type of supply voltage	AC
Inrush current	typ. 10 A (at 25 °C)
Inrush current integral (I^2t)	< 0.2 A^2s
Frequency range (f_N)	50 Hz ... 60 Hz ±10 %
Mains buffering time	typ. 16 ms (120 V AC)
	typ. 20 ms (230 V AC)
Current consumption	2.6 A (100 V AC)
	2.2 A (120 V AC)
	1.13 A (230 V AC)
	1.2 A (240 V AC)
Protective circuit	Transient surge protection; Varistor, gas-filled surge arrester
Switch-on time	typ. 400 ms
Device mains fuse	5 A internal (device protection), fast-blow
Recommended breaker for input protection	6 A ... 16 A (Characteristic B, C, D, K or comparable)
Discharge current to PE	< 3.5 mA

Output data

Efficiency	typ. 92 % (120 V AC)
	typ. 94 % (230 V AC)
Nominal output voltage	24 V DC
Setting range of the output voltage (U_{Set})	24 V DC ... 28 V DC (> 24 V DC, constant capacity restricted)
Nominal output current (I_N)	10 A
Short-circuit-proof	yes
No-load proof	yes
Crest factor	typ. 1.65 (120 V AC)
	typ. 1.63 (230 V AC)
Output power (P_N)	240 W
Connection in parallel	yes, for redundancy
Connection in series	yes, for increased output voltage
Feedback voltage resistance	≤ 35 V DC
Protection against overvoltage at the output (OVP)	≤ 35 V DC
Residual ripple	typ. 50 mV_{PP} (with nominal values)
	< 1 % (change in load, static 10 % ... 90 %)

Control deviation	< 3 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage ±10 %)
Rise time	< 1 s (U_{Out} = 10 % ... 90 %)
Minimum no-load power dissipation	< 4 W (120 V AC)
Maximum no-load power dissipation	< 4 W (230 V AC)
Minimum nominal load power dissipation	< 21 W (120 V AC)
Power loss nominal load max.	< 16 W (230 V AC)
Integrated fuse protection	no

Connection data

Input

Position	1.x
Identification	1.1 (L), 1.3 (N)

Conductor connection

Connection method	Screw connection
rigid	0.2 mm² ... 2.5 mm²
flexible	0.2 mm² ... 2.5 mm²
flexible with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
flexible with ferrule with plastic sleeve	0.25 mm² ... 2.5 mm²
AWG	24 ... 14 (Cu)
Stripping length	6.5 mm
Tightening torque	0.5 Nm ... 0.6 Nm
	4 lb_f-in. ... 5 lb_f-in.
Drive form screw head	Slotted L

Output

Position	2.x
Identification	2.1, 2.2 (+), 2.3, 2.4 (-)

Conductor connection

Connection method	Screw connection
rigid	0.2 mm² ... 2.5 mm²
flexible	0.2 mm² ... 2.5 mm²
flexible with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
flexible with ferrule with plastic sleeve	0.25 mm² ... 2.5 mm²
rigid (AWG)	24 ... 14 (Cu)
AWG	24 ... 14 (Cu)
Stripping length	6.5 mm
Tightening torque	0.5 Nm ... 0.6 Nm
	4 lb_f-in. ... 5 lb_f-in.
Drive form screw head	Slotted L

Signal

Position	3.x

Identification	3.1 (13), 3.2 (14)

Conductor connection

Connection method	Screw connection
rigid	0.2 mm² ... 2.5 mm²
flexible	0.2 mm² ... 2.5 mm²
flexible with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
flexible with ferrule with plastic sleeve	0.25 mm² ... 2.5 mm²
AWG	24 ... 14 (Cu)
Stripping length	6.5 mm
Tightening torque	0.5 Nm ... 0.6 Nm
	4 lb_f-in. ... 5 lb_f-in.
Drive form screw head	Slotted L

Signaling

LED signaling

Types of signaling	LED DC OK - signal state operation (U_N = 24 V DC, I_{Out} = I_N)
Function	Visual operating state display
Color	green
LED off	Supply voltage input AC not present (Off)
LED on (green), DC OK	U_{OUT} > 0,9 x U_N (On (green), DC OK)
LED on (flashing green) DC OK < 0.9 x UN	U_{OUT} < 0,9 x U_N (on (flashing green))

Signal output Relay 13/14

Position	3.x
Type of signaling	DC OK switch contact - signal state operation (U_N = 24 V DC, I_{Out} = I_N)
Position marking	3.1 (13), 3.2 (14)
Function	Operating state forwarding
Switch contact (floating)	OptoMOS
Switching voltage	max. 30 V AC/DC
	max. 60 V DC
Current carrying capacity	max. 50 mA
State condition (Contact closed)	U_{OUT} > 0,9 x U_N (Contact closed)
State condition (Contact open)	U_{OUT} < 0,9 x U_N (Contact open)

Electrical properties

Number of phases	1
Insulation voltage input/output	4 kV AC (type test)
	3 kV AC (routine test)
Insulation voltage input / PE	3.5 kV AC (type test)
	2.4 kV AC (routine test)

Product properties

Product type	Power supply

Product family	UNO POWER
MTBF (IEC 61709, SN 29500)	> 1219000 h (25 °C)
	> 678000 h (40 °C)
	> 366000 h (55 °C)
Environmental protection directive	RoHS Directive 2011/65/EU
	WEEE
	Reach

Insulation characteristics

Protection class	I
Degree of pollution	2

Life expectancy (electrolytic capacitors)

Temperature	40 °C
Additional text	120 V AC

Life expectancy (electrolytic capacitors)

Temperature	40 °C
Additional text	230 V AC

Life expectancy (electrolytic capacitors)

Temperature	40 °C
Additional text	120 V AC

Life expectancy (electrolytic capacitors)

Temperature	40 °C
Additional text	230 V AC

Life expectancy (electrolytic capacitors)

Temperature	40 °C
Additional text	120 V AC

Life expectancy (electrolytic capacitors)

Temperature	40 °C
Additional text	230 V AC

Life expectancy (electrolytic capacitors)

Temperature	25 °C
Additional text	120 V AC

Life expectancy (electrolytic capacitors)

Temperature	25 °C
Additional text	230 V AC

Dimensions

Item dimensions

Width	45 mm
Height	130 mm

Depth	129 mm
Depth (Device depth (DIN rail mounting))	125 mm (Device depth (DIN rail mounting))

Installation dimensions

Installation distance right/left (active, passive)	0 mm / 0 mm
Installation distance top/bottom (active, passive)	30 mm / 30 mm

Mounting

Mounting type	DIN rail mounting
Assembly note	alignable: 0 mm horizontally, 30 mm vertically
Mounting position	horizontal DIN rail NS 35, EN 60715
With protective coating	no

Material specifications

Flammability rating according to UL 94	V0 (Housing, terminal blocks)
Housing material	Metal
Housing material	Aluminum (AlMg3) / sheet steel, zinc-plated
Hood version	Stainless steel
Side element version	Aluminum
Foot latch material	Sheet steel, zinc-plated

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (start-up type tested)	-40 °C
Maximum altitude	≤ 3000 m (> 2000 m, Derating: 10 %/1000 m)
Climatic class	3K22 (in accordance with EN 60721)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock (operation)	18 ms, 30g, per spatial direction (IEC 60068-2-27)
Vibration (operation)	10 Hz ... 50 Hz, amplitude ±0.2 mm (IEC 60068-2-6)
	50 Hz ... 150 Hz, 2.3g, 90 min.
Temp code	T4 (-25°C ... +70°C; >55°C, derating: 2.5 %/K)

Standards and regulations

Overvoltage category

EN 61010-1	II (≤ 3000 m)

Overvoltage category

EN 62477-1	III (≤3000 m)

Safety of power supply units up to 1100 V (insulation distances)

Standard designation	Safety of power supply units up to 1100 V (insulation distances)
Standards/specifications	DIN EN 61558-2-16

Electrical safety

Standard designation	Electrical safety
Standards/specifications	IEC 61010-2-201 (SELV)

Safety for measurement, control, and laboratory equipment

Standard designation	Safety for equipment for measurement, control, and laboratory use
Standards/specifications	IEC 61010-1

Protective extra-low voltage

Standard designation	Protective extra-low voltage
Standards/specifications	IEC 61010-1 (SELV)
	IEC 61010-2-201 (PELV)

Safe isolation

Standard designation	Safe isolation
Standards/specifications	IEC 61558-2-16
	IEC 61010-2-201

Limitation of harmonic line currents

Standard designation	Limitation of harmonic line currents
Standards/specifications	EN 61000-3-2

Mains voltage dips

Standard designation	Requirement of the semiconductor industry with regard to mains voltage dips
Standards/specifications	SEMI F47 - 0706 (180 V AC)

Approvals

UL

Identification	UL/C-UL Listed UL 61010-1

UL

Identification	UL/C-UL Listed UL 61010-2-201

UL

Identification	UL/C-UL Listed ANSI/UL 121201 Class I, Division 2, Groups A, B, C, D (Hazardous Location)

SIQ

Identification	CB scheme (IEC 61010-1, IEC 61010-2-201)

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
Interference emission	Interference emission in accordance with EN 61000-6-3 (residential and commercial) and EN 61000-6-4 (industrial)
EMC requirements for noise immunity	EN 61000-6-2

Conducted noise emission

Standards/regulations	EN 55016
	EN 61000-6-3 (Class B)

Noise emission

Standards/regulations	EN 55016
	EN 61000-6-3 (Class B)

Harmonic currents

Standards/regulations	EN 61000-3-2
	EN 61000-3-2 (Class A)
Frequency range	0 kHz ... 2 kHz

Flicker

Standards/regulations	EN 61000-3-3
Frequency range	0 kHz ... 2 kHz

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	6 kV (Test Level 3)
Discharge in air	8 kV (Test Level 3)
Comments	Criterion A

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	2 kV (Test Level 4 - symmetrical)

	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 3 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Input/Output	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Voltage dips

Standards/regulations	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 / 30 periods
Comments	Criterion A
Voltage dip	40 %
Number of periods	12 periods
Additional text	Test Level 2
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Test Level 2
Comments	Criterion B

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

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UNO-PS/1AC/24DC/ 60W - Power supply

2902992

https://www.phoenixcontact.com/us/products/2902992

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Primary-switched UNO POWER power supply for DIN rail mounting, input: 1-phase, output: 24 V DC/60 W

Product description

UNO POWER power supplies with basic functionality
Thanks to their high power density, compact UNO POWER power supplies are the ideal solution for loads up to 240 W, particularly in compact control boxes. The power supply units are available in various performance classes and overall widths. Their high degree of efficiency and low idling losses ensure a high level of energy efficiency.

Your advantages

- Flexible mounting by simply snapping onto the DIN rail
- More space in the control cabinet with up to 20 % higher power density
- Maximum energy efficiency, thanks to over 90 % efficiency and extremely low idling losses under 0.3 W
- Outdoor installation, thanks to the wide temperature range from -25 °C ... +70 °C

Technical data

Input data

AC operation

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
Input voltage range AC	85 V AC ... 264 V AC
Voltage type of supply voltage	AC
Inrush current	< 30 A (typ.)
Inrush current integral (I^2t)	< 0.5 A^2s (typ.)
AC frequency range	50 Hz ... 60 Hz
Frequency range (f_N)	50 Hz ... 60 Hz ±10 %
Mains buffering time	> 20 ms (120 V AC)
	> 85 ms (230 V AC)
Current consumption	typ. 1.3 A (100 V AC)
	typ. 0.6 A (240 V AC)
Nominal power consumption	135.5 VA
Protective circuit	Transient surge protection; Varistor
Power factor (cos phi)	0.49
Typical response time	< 1 s
Input fuse	2.5 A (slow-blow, internal)
Recommended breaker for input protection	6 A ... 16 A (Characteristics B, C, D, K)

Output data

Efficiency	typ. 88 % (120 V AC)
	typ. 90 % (230 V AC)
Output characteristic	HICCUP
Nominal output voltage	24 V DC
Nominal output current (I_N)	2.5 A (-25 °C ... 55 °C)
Derating	55 °C ... 70 °C (2.5 %/K)
Feedback voltage resistance	< 35 V DC
Protection against overvoltage at the output (OVP)	≤ 35 V DC
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (Dynamic load change 10 % ... 90 %, 10 Hz)
	< 0.1 % (change in input voltage ±10 %)
Residual ripple	< 30 mV_{PP} (with nominal values)
Short-circuit-proof	yes
Output power	60 W
Maximum no-load power dissipation	< 0.3 W
Power loss nominal load max.	< 7 W
Rise time	< 0.5 s (U_{OUT} (10 % ... 90 %))
Response time	< 2 ms
Connection in parallel	yes, for redundancy and increased capacity

Connection in series	yes

Connection data

Input

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	8 mm
Screw thread	M3
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm

Output

Connection method	Screw connection
Conductor cross-section, rigid min.	0.2 mm²
Conductor cross-section, rigid max.	2.5 mm²
Conductor cross-section flexible min.	0.2 mm²
Conductor cross-section flexible max.	2.5 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule with plastic sleeve, max.	2.5 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, min.	0.2 mm²
Single conductor/flexible terminal point with ferrule without plastic sleeve, max.	2.5 mm²
Conductor cross-section AWG min.	24
Conductor cross-section AWG max.	14
Stripping length	8 mm
Screw thread	M3
Tightening torque, min	0.6 Nm
Tightening torque max	0.8 Nm

Signaling

Types of signaling	LED

Electrical properties

Number of phases	1
Insulation voltage input/output	4 kV AC (type test)
	3 kV AC (routine test)

Product properties

Product type	Power supply
Product family	UNO POWER
MTBF (IEC 61709, SN 29500)	> 785000 h (40 °C)

Insulation characteristics

Protection class	II (in closed control cabinet)
Degree of pollution	2

Dimensions

Width	35 mm
Height	90 mm
Depth	84 mm

Installation dimensions

Installation distance right/left	0 mm / 0 mm
Installation distance top/bottom	30 mm / 30 mm

Mounting

Mounting type	DIN rail mounting
Assembly note	alignable: 0 mm horizontally, 30 mm vertically
Mounting position	horizontal DIN rail NS 35, EN 60715
With protective coating	no

Material specifications

Flammability rating according to UL 94 (housing / terminal blocks)	V0
Housing material	Plastic
Housing material	PC
Type of housing	Polycarbonate
Foot latch material	POM (Polyoxymethylene)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 70 °C (> 55 °C Derating: 2.5 %/K)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Ambient temperature (start-up type tested)	-40 °C

Climatic class	3K22 (in accordance with EN 60721-3-3)
Max. permissible relative humidity (operation)	≤ 95 % (at 25 °C, non-condensing)
Shock	18 ms, 30g, in each space direction (according to IEC 60068-2-27)
Vibration (operation)	< 15 Hz, amplitude ±2.5 mm (according to IEC 60068-2-6)
	15 Hz ... 150 Hz, 2.3g, 90 min.

Standards and regulations

Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard - Electrical safety	IEC 62368-1 (SELV)
Standard – Safety extra-low voltage	IEC 62368-1 (SELV) und EN 60204-1 (PELV)
Standard - Safe isolation	DIN VDE 0100-410
Standard - Safety of transformers	EN 61558-2-16
Approval - requirement of the semiconductor industry with regard to mains voltage dips	EN 61000-4-11

Mains voltage dips

Standard designation	Requirement of the semiconductor industry with regard to mains voltage dips
Standards/specifications	SEMI F47 - 0706 (180 V AC)

Approvals

CSA	CAN/CSA-C22.2 No. 60950-1-07
	CSA-C22.2 No. 107.1-01
	CAN/CSA-C22.2 No. 213 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location)
UL approvals	UL/C-UL listed UL 508
	NEC Class 2 as per UL 1310
	UL/C-UL Listed ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D T4A (Hazardous Location)
	UL/C-UL Recognized UL 60950-1

Conformity/Approvals

SIL in accordance with IEC 61508	0

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Low Voltage Directive	Conformance with Low Voltage Directive 2014/35/EC
EMC requirements for noise emission	EN 61000-6-3
	EN 61000-6-4
EMC requirements for noise immunity	EN 61000-6-1
	EN 61000-6-2

Electrostatic discharge

Standards/regulations	EN 61000-4-2

Electrostatic discharge

Contact discharge	6 kV (Test Level 3)

Discharge in air	8 kV (Test Level 3)
Comments	Criterion B

Electromagnetic HF field

Standards/regulations	EN 61000-4-3

Electromagnetic HF field

Frequency range	80 MHz ... 1 GHz
Test field strength	10 V/m (Test Level 3)
Frequency range	1 GHz ... 6 GHz
Test field strength	10 V/m (Test Level 3)
Comments	Criterion A

Fast transients (burst)

Standards/regulations	EN 61000-4-4

Fast transients (burst)

Input	4 kV (Test Level 4 - asymmetrical)
Output	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Surge voltage load (surge)

Standards/regulations	EN 61000-4-5

Surge voltage load (surge)

Input	2 kV (Test Level 3 - symmetrical)
	4 kV (Test Level 4 - asymmetrical)
Output	1 kV (Test Level 2 - symmetrical)
	2 kV (Test Level 3 - asymmetrical)
Comments	Criterion A

Conducted interference

Standards/regulations	EN 61000-4-6

Conducted interference

Input/Output	asymmetrical
Frequency range	0.15 MHz ... 80 MHz
Comments	Criterion A
Voltage	10 V (Test Level 3)

Voltage dips

Standards/regulations	EN 61000-4-11
Voltage	230 V AC
Frequency	50 Hz
Voltage dip	70 %
Number of periods	25 periods
Additional text	Class 3
Comments	Criterion A

Voltage dip	40 %
Number of periods	10 periods
Additional text	Class 3
Comments	Criterion A
Voltage dip	0 %
Number of periods	1 period
Additional text	Class 3
Comments	Criterion A

Emitted interference

Standards/regulations	EN 61000-6-3
Radio interference voltage in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential
Emitted radio interference in acc. with EN 55011	EN 55011 (EN 55022) Class B, area of application: Industry and residential

Criteria

Criterion A	Normal operating behavior within the specified limits.
Criterion B	Temporary impairment to operational behavior that is corrected by the device itself.

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