Gutor PXC

10–80 kVA 400 V

Technical Specifications

10/2018



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As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this publication.

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Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a “Danger” or “Warning” safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

⚠DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

Failure to follow these instructions will result in death or serious injury.

⚠WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

⚠CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

Failure to follow these instructions can result in injury or equipment damage.

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

Failure to follow these instructions can result in equipment damage.

Please Note

Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Safety Precautions

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- The product must be installed according to the specifications and requirements as defined by Schneider Electric. It concerns in particular the external and internal protections (upstream circuit breakers, battery circuit breakers, cabling, etc.) and environmental requirements. No responsibility is assumed by Schneider Electric if these requirements are not respected.
- After the UPS system has been electrically wired, do not start up the system. Start-up must only be performed by Schneider Electric.

Failure to follow these instructions will result in death or serious injury.

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS System must be installed according to local and national regulations. Install the UPS according to:

- IEC 60364 (including 60364–4–41- protection against electric shock, 60364–4–42 - protection against thermal effect, and 60364–4–43 - protection against overcurrent), **or**
- NEC NFPA 70

depending on which one of the standards apply in your local area.

Failure to follow these instructions will result in death or serious injury.

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Install the UPS system in a temperature controlled area free of conductive contaminants and humidity.
- Install the UPS system on a non-inflammable, level, and solid surface (e.g. concrete) that can support the weight of the system.

Failure to follow these instructions will result in death or serious injury.

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

The UPS is not designed for and must therefore not be installed in the following unusual operating environments:

- Damaging fumes
- Explosive mixtures of dust or gases, corrosive gases, or conductive or radiant heat from other sources
- Moisture, abrasive dust, steam or in an excessively damp environment
- Fungus, insects, vermin
- Salt-laden air or contaminated cooling refrigerant
- Pollution degree higher than 2 according to IEC 60664-1
- Exposure to abnormal vibrations, shocks, and tilting
- Exposure to direct sunlight, heat sources, or strong electromagnetic fields

Failure to follow these instructions will result in death or serious injury.

NOTICE

RISK OF OVERHEATING

Respect the clearance requirements around the UPS system and do not cover the product's ventilation openings when the UPS system is in operation.

Failure to follow these instructions can result in equipment damage.

NOTICE

RISK OF EQUIPMENT DAMAGE

Do not connect the UPS output to regenerative load systems including photovoltaic systems and speed drives.

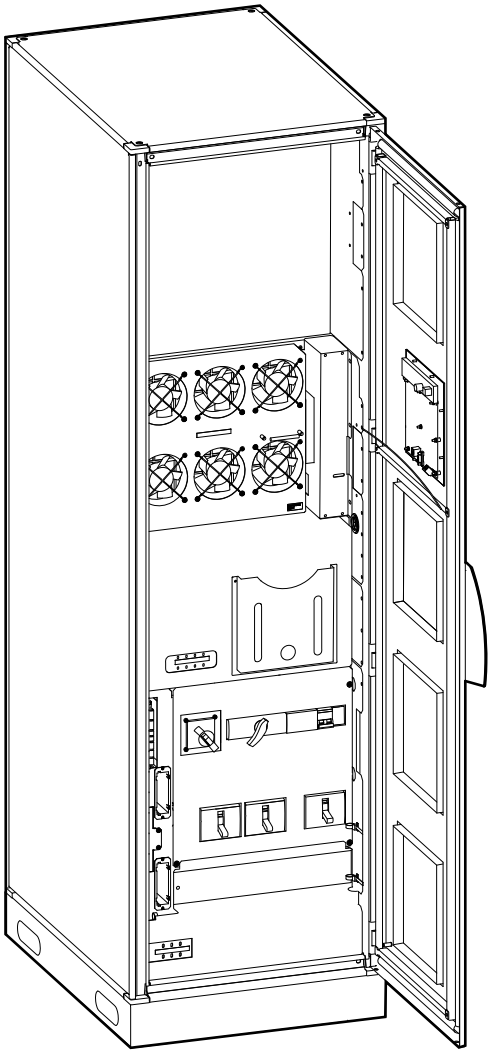
Failure to follow these instructions can result in equipment damage.

Technical Data

Model List

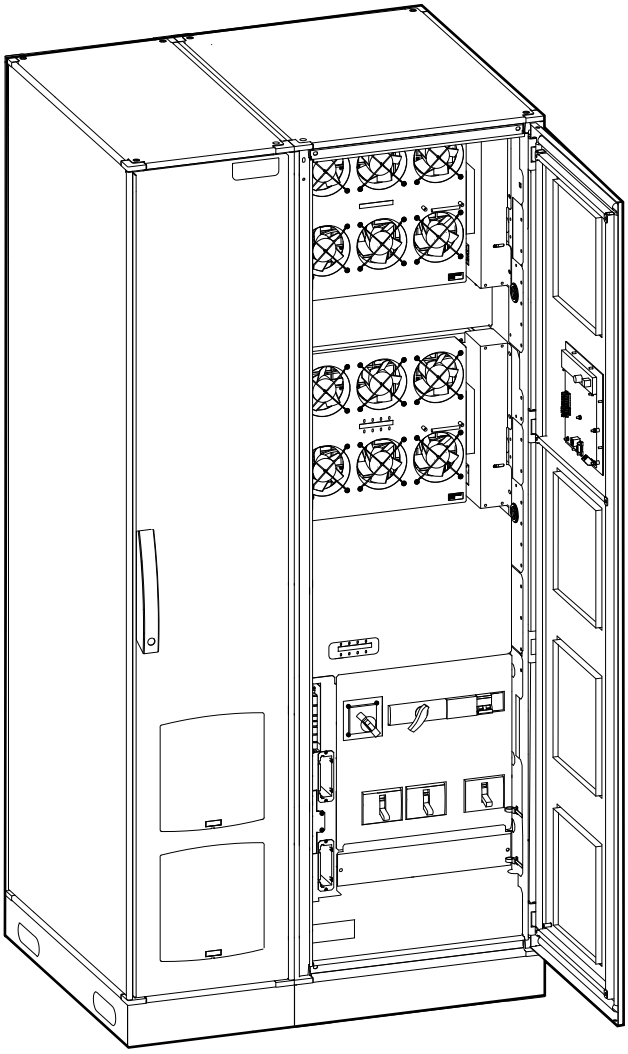
UPS Model List

10–80 kVA without Transformers
10–40 kVA with Two Transformers



- Gutor PXC 10 kVA UPS 3:3
- Gutor PXC 10 kVA UPS 3:1
- Gutor PXC 20 kVA UPS 3:3
- Gutor PXC 20 kVA UPS 3:1
- Gutor PXC 30 kVA UPS 3:3
- Gutor PXC 30 kVA UPS 3:1
- Gutor PXC 40 kVA UPS 3:3
- Gutor PXC 40 kVA UPS 3:1

50–80 kVA UPS with Two Transformers



- Gutor PXC 50 kVA UPS 3:3
- Gutor PXC 50 kVA UPS 3:1
- Gutor PXC 60 kVA UPS 3:3
- Gutor PXC 60 kVA UPS 3:1
- Gutor PXC 80 kVA UPS 3:3
- Gutor PXC 80 kVA UPS 3:1

Battery Cabinet Model List

- Battery Cabinet 600 mm: GUPXCAB600IEC
- Battery Cabinet 800 mm: GUPXCAB800IEC
- Battery Cabinet 600 mm adjacent: GUPXCAB600AIEC
- Battery Cabinet 800 mm adjacent: GUPXCAB800AIEC

Input Power Factor

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
100% load	0.96–0.98						

Efficiency

Efficiency in Normal Operation

The table below provides average system efficiencies with a balanced linear load.

	10 kVA				20 kVA				30 kVA			
	Without transformer	T001	T004	T001 and T004	Without transformer	T001	T004	T001 and T004	Without transformer	T001	T004	T001 and T004
25% load	90.9	87.2	87.2	83.8	91.7	88.0	88.0	84.6	91.9	88.2	88.2	84.8
50% load	93.6	89.8	89.8	86.3	94.4	90.6	90.6	87.1	94.6	90.8	90.8	87.3
75% load	93.4	89.6	89.6	86.1	94.2	90.4	90.4	86.9	94.4	90.6	90.6	87.1
100% load	93.3	89.5	89.5	86.0	94.1	90.3	90.3	86.8	94.3	90.5	90.5	87.0

	40 kVA				50 kVA				60 kVA			
	Without transformer	T001	T004	T001 and T004	Without transformer	T001	T004	T001 and T004	Without transformer	T001	T004	T001 and T004
25% load	92.0	88.3	88.3	84.9	92.0	88.4	88.4	84.9	92.1	88.4	88.4	85.0
50% load	94.7	90.9	90.9	87.4	94.7	91.0	91.0	87.4	94.8	91.0	91.0	87.5
75% load	94.5	90.7	90.7	87.2	94.5	90.8	90.8	87.2	94.6	90.8	90.8	87.3
100% load	94.4	90.6	90.6	87.1	94.4	90.6	90.6	87.1	94.5	90.7	90.7	87.2

	80 kVA			
	Without transformer	T001	T004	T001 and T004
25% load	92.2	88.5	88.5	85.1
50% load	94.9	91.1	91.1	87.6
75% load	94.7	90.9	90.9	87.4
100% load	94.6	90.8	90.8	87.3

Efficiency in Battery Operation

	10 kVA				20 kVA				30 kVA			
	Without transformer	**T001**	**T004**	**T001 and T004**	**Without transformer**	**T001**	**T004**	**T001 and T004**	**Without transformer**	**T001**	**T004**	**T001 and T004**
25% load	91.0	91.0	87.7	87.7	91.8	91.8	88.5	88.5	92.0	92.0	88.7	88.7
50% load	93.1	93.1	89.7	89.7	93.9	93.9	90.5	90.5	94.1	94.1	90.7	90.7
75% load	93.5	93.5	90.1	90.1	94.3	94.3	90.9	90.9	94.5	94.5	91.1	91.1
100% load	92.8	92.8	89.4	89.4	93.6	93.6	90.2	90.2	93.8	93.8	90.4	90.4

	40 kVA				50 kVA				60 kVA			
	Without transformer	**T001**	**T004**	**T001 and T004**	**Without transformer**	**T001**	**T004**	**T001 and T004**	**Without transformer**	**T001**	**T004**	**T001 and T004**
25% load	92.1	92.1	88.8	88.8	92.2	92.2	88.8	88.8	92.2	92.2	88.9	88.9
50% load	94.2	94.2	90.8	90.8	94.2	94.2	90.8	90.8	94.3	94.3	90.9	90.9
75% load	94.6	94.6	91.2	91.2	94.7	94.7	91.2	91.2	94.7	94.7	91.3	91.3
100% load	93.9	93.9	90.5	90.5	93.9	93.9	90.5	90.5	94.0	94.0	90.6	90.6

	80 kVA			
	Without transformer	**T001**	**T004**	**T001 and T004**
25% load	92.3	92.3	89.0	89.0
50% load	94.4	94.4	91.0	91.0
75% load	94.8	94.8	91.4	91.4
100% load	94.1	94.1	90.7	90.7

Derating Due to Load Power Factor

10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
0.5 leading to 0.5 lagging without derating (power factor 0.8)						

Compliance

Safety	IEC 62040-1: 2008-06, 1st edition Uninterruptible Power Systems (UPS) - Part 1: General and safety requirements for UPS EN 62040-1: 2013-01, 1st edition amendment 1
EMC/EMI/RFI	IEC 62040-2: 2005-10, 2nd edition Uninterruptible Power Systems (UPS) - Part 2: Electromagnetic compatibility (EMC) requirements
Performance	IEC 62040-3: 2009–03, 2nd edition Uninterruptible Power Systems (UPS) - Part 3: Method of specifying the performance and test requirements
Markings	CE
Transportation	ISTA 2B
Seismic	IBC2012 to Sds=1.00g

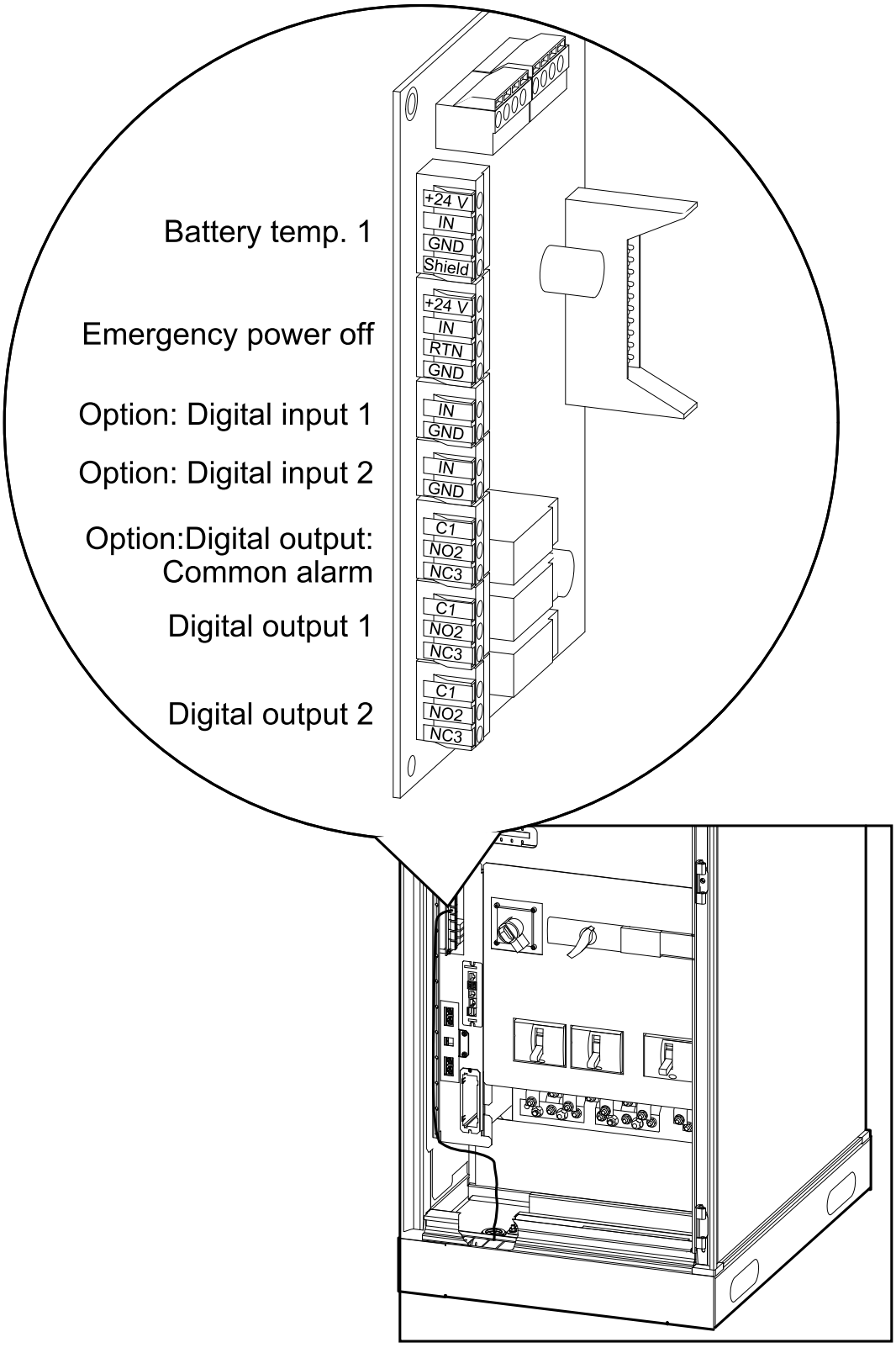
Communication and Management

Overview of Input Contacts and Output Relays

External Connection Board A811

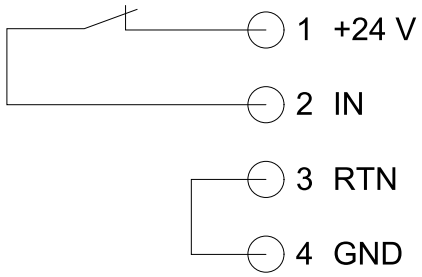
The digital inputs in the external connected board are designed for connection to equipment inside the cabinet and signal cables from these boards must not be routed out of the cabinet.

NOTE: No external supply voltage is allowed.

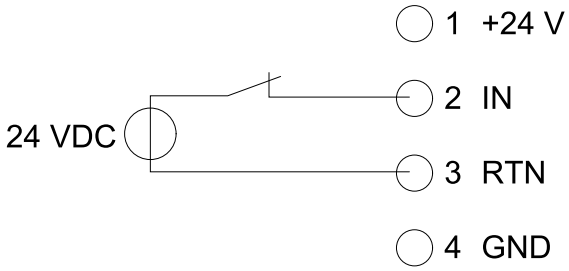


EPO Connections

Using the Internal Supply



Using an External Supply



Facility Planning

Input Specifications

Input Specifications for Systems without Transformer

	10 kVA			20 kVA			30 kVA			40 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE											
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)											
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)											
Nominal input current (A)	19	18	17	32	31	29	50	48	46	63	60	58
Maximum input current (A)	25	23	22	42	40	38	65	62	60	82	78	75
Total harmonic distortion (THDI)	< 5% at 100% load											
Maximum input short-circuit withstand (kA) Icc	65											
Protection	Schneider NSX (current limiting) or Fuse GL type											
Ramp-in	10% nominal power/sec											
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.											

	50 kVA			60 kVA			80 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)								
Nominal input current (A)	82	78	75	94	90	86	126	120	115
Maximum input current (A)	107	101	98	122	117	112	164	156	150
Total harmonic distortion (THDI)	< 5% at 100% load								
Maximum input short-circuit withstand (kA) Icc	65								
Protection	Schneider NSX (current limiting) or Fuse GL type								
Ramp-in	10% nominal power/sec								
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.								

Input Specifications for Systems with Rectifier Input Transformer (T001)

	10 kVA			20 kVA			30 kVA			40 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, PE											
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)											
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)											
Nominal input current (A)	19	18	17	33	31	30	52	49	48	65	62	60
Maximum input current (A)	25	23	22	43	40	39	68	64	62	85	81	78
Inrush current	10 x nominal input current											
Total harmonic distortion (THDI)	< 5% at 100% load											
Maximum input short-circuit withstand (kA) Icc	65											
Protection	Schneider NSX (current limiting) or Fuse GL type											
Ramp-in	10% nominal power/sec											
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.											

	50 kVA			60 kVA			80 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)								
Nominal input current (A)	85	80	78	98	93	90	131	124	120
Maximum input current (A)	111	104	101	127	121	117	170	161	156
Inrush current	10 x nominal input current								
Total harmonic distortion (THDI)	< 5% at 100% load								
Maximum input short-circuit withstand (kA) Icc	65								
Protection	Schneider NSX (current limiting) or Fuse GL type								
Ramp-in	10% nominal power/sec								
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.								

Input Specifications for Systems with Output Transformer (T401)

	10 kVA			20 kVA			30 kVA			40 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE											
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)											
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)											
Nominal input current (A)	18	18	17	32	30	29	50	48	46	63	60	58
Maximum input current (A)	23	23	22	42	39	38	65	62	60	82	78	75
Inrush current	10 x nominal input current											
Total harmonic distortion (THDI)	< 5% at 100% load											
Maximum input short-circuit withstand (kA) Icc	65											
Protection	Schneider NSX (current limiting) or Fuse GL type											
Ramp-in	10% nominal power/sec											
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.											

	50 kVA			60 kVA			80 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)								
Nominal input current (A)	82	78	75	95	90	87	127	120	116
Maximum input current (A)	107	101	98	124	117	113	165	156	151
Inrush current	10 x nominal input current								
Total harmonic distortion (THDI)	< 5% at 100% load								
Maximum input short-circuit withstand (kA) Icc	65								
Protection	Schneider NSX (current limiting) or Fuse GL type								
Ramp-in	10% nominal power/sec								
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.								

Input Specifications for Systems with Rectifier Input Transformer (T001) and Inverter Output Transformer (T401)

	10 kVA			20 kVA			30 kVA			40 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, PE											
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)											
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)											
Nominal input current (A)	19	18	18	33	31	30	52	49	48	66	63	60
Maximum input current (A)	25	23	23	43	40	39	68	64	62	86	82	78
Inrush current	10 x nominal input current											
Total harmonic distortion (THDI)	< 5% at 100% load											
Maximum input short-circuit withstand (kA) Icc	65											
Protection	Schneider NSX (current limiting) or Fuse GL type											
Ramp-in	10% nominal power/sec											
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.											

	50 kVA			60 kVA			80 kVA		
Input Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency range (Hz)	± 8% (46–54 Hz for 50 Hz systems, 55–65 Hz for 60 Hz systems)								
Nominal input current (A)	85	81	78	99	94	90	132	125	121
Maximum input current (A)	111	105	101	129	125	117	172	163	157
Inrush current	10 x nominal input current								
Total harmonic distortion (THDI)	< 5% at 100% load								
Maximum input short-circuit withstand (kA) Icc	65								
Protection	Schneider NSX (current limiting) or Fuse GL type								
Ramp-in	10% nominal power/sec								
Backfeed protection	Backfeed protection is not installed in the UPS and must be provided by third party and installed upstream of the UPS.								

Bypass Specifications

Bypass Specifications for Systems without Transformer

3:1

	10 kVA			20 kVA			30 kVA			40 kVA		
	220 V	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**
Connections	L, N, PE											
Voltage range (V)	± 10% (198– 242 V for 220 V systems, 207–253 V for 230 V systems, 216–264 V for 240 V systems)											
Frequency (Hz)	50/60											
Frequency range (Hz)	47–53/56–64											
Nominal bypass current (A)	45	43	42	91	87	83	136	130	125	182	174	167
Protection	Schneider NSX (current limiting) or Fuse GL type											

	50 kVA			60 kVA			80 kVA		
	220 V	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**
Connections	L, N, PE								
Voltage range (V)	± 10% (198– 242 V for 220 V systems, 207–253 V for 230 V systems, 216–264 V for 240 V systems)								
Frequency (Hz)	50/60								
Frequency range (Hz)	47–53/56–64								
Nominal bypass current (A)	227	217	208	273	261	250	364	348	333
Protection	Schneider NSX (current limiting) or Fuse GL type								

3:3

	10 kVA			20 kVA			30 kVA			40 kVA		
	380 V	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE											
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)											
Frequency (Hz)	50/60											
Frequency range (Hz)	47–53/56–64											
Nominal bypass current (A)	15	14	14	30	29	28	46	43	42	61	58	56
Protection	Schneider NSX (current limiting) or Fuse GL type											

	50 kVA			60 kVA			80 kVA		
	380 V	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency (Hz)	50/60								
Frequency range (Hz)	47–53/56–64								
Nominal bypass current (A)	76	72	70	91	87	83	122	115	111
Protection	Schneider NSX (current limiting) or Fuse GL type								

Bypass Specifications for Systems with Transformer (T501)

3:1

	10 kVA			20 kVA			30 kVA			40 kVA		
	220 V	230 V	240 V	220 V	230 V	240 V	380 V	400 V	415 V	380 V	400 V	415 V
Connections	L, N, PE						L1, L2, PE					
Voltage range (V)	± 10% (198– 242 V for 220 V systems, 207–253 V for 230 V systems, 216–264 V for 240 V systems)						± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)					
Frequency (Hz)	50/60											
Frequency range (Hz)	47–53/56–64											
Nominal bypass current (A)	47	45	43	95	91	87	82	78	75	109	104	100
Inrush current	10 x nominal input current											
Protection	Schneider NSX (current limiting) or Fuse GL type											

	50 kVA			60 kVA			80 kVA		
	380 V	400 V	415 V	380 V	400 V	415 V	380 V	400 V	415 V
Connections	L1, L2, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency (Hz)	50/60								
Frequency range (Hz)	47–53/56–64								
Nominal bypass current (A)	137	130	125	164	156	150	218	208	200
Protection	Schneider NSX (current limiting) or Fuse GL type								

3:3

	10 kVA			20 kVA			30 kVA			40 kVA		
	380 V	400 V	415 V	380 V	400 V	415 V	380 V	400 V	415 V	380 V	400 V	415 V
Connections	L1, L2, L3, PE											
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)											
Frequency (Hz)	50/60											
Frequency range (Hz)	46–54/55–65											
Nominal bypass current (A)	16	15	14	32	30	29	47	45	43	63	60	58
Inrush current	10 x nominal input current											
Protection	Schneider NSX (current limiting) or Fuse GL type											

	50 kVA			60 kVA			80 kVA		
	380 V	400 V	415 V	380 V	400 V	415 V	380 V	400 V	415 V
Connections	L1, L2, L3, PE								
Voltage range (V)	± 10% (342-418 V for 380 V systems, 360-440 V for 400 V systems, 374-457 V for 415 V systems)								
Frequency (Hz)	50/60								
Frequency range (Hz)	46–54/55–65								
Nominal bypass current (A)	79	75	72	95	90	87	126	120	116
Protection	Schneider NSX (current limiting) or Fuse GL type								

Output Specifications

3:1

	10 kVA			20 kVA			30 kVA			40 kVA		
Output Voltage (V)	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**
Connections	L, N, PE											
Overload capacity	150% for 1 minute 125% for 10 minutes 230% for 60 ms 1000% for 100 ms (bypass operation)											
Output voltage tolerance	± 1%											
Output power factor	0.8											
Nominal output current (A)	45	43	42	91	87	83	136	130	125	182	174	167
Total harmonic distortion (THDU)	< 2% at 100% linear load < 5% at 100% non-linear load (IEC 62040–3)											
Output frequency (Hz)	50/60 Hz (sync to bypass) 50/60 Hz ± 0.1% (free-running)											
Slew rate (Hz/sec)	Programmable: 0.25, 0.5, 1, 2, or 4											
Output performance classification (according to IEC/EN62040-3)	VFI-SS-111											
Load crest factor	Unlimited											
Load power factor	0.5 leading to 0.5 lagging without derating											

	50 kVA			60 kVA			80 kVA		
Output Voltage (V)	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**	**220 V**	**230 V**	**240 V**
Connections	L, N, PE								
Overload capacity	150% for 1 minute 125% for 10 minutes 230% for 60 ms 1000% for 100 ms (bypass operation)								
Output voltage tolerance	± 1%								
Output power factor	0.8								
Nominal output current (A)	227	217	208	273	261	250	364	348	333
Total harmonic distortion (THDU)	< 2% at 100% linear load < 5% at 100% non-linear load (IEC 62040–3)								
Output frequency (Hz)	50/60 Hz (sync to bypass) 50/60 Hz ± 0.1% (free-running)								
Slew rate (Hz/sec)	Programmable: 0.25, 0.5, 1, 2, or 4								
Output performance classification (according to IEC/EN62040-3)	VFI-SS-111								
Load crest factor	Unlimited								
Load power factor	0.5 leading to 0.5 lagging without derating								

3:3

	10 kVA			20 kVA			30 kVA			40 kVA		
Output Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE											
Overload capacity	150% for 1 minute 125% for 10 minutes 230% for 60 ms 1000% for 100 ms (bypass operation)											
Output voltage tolerance	± 1%											
Output power factor	0.8											
Nominal output current (A)	15	14	14	30	29	28	46	43	42	61	58	56
Total harmonic distortion (THDU)	< 2% at 100% linear load < 5% at 100% non-linear load (IEC 62040–3)											
Output frequency (Hz)	50/60 Hz (sync to bypass) 50/60 Hz ± 0.1% (free-running)											
Slew rate (Hz/sec)	Programmable: 0.25, 0.5, 1, 2, or 4											
Output performance classification (according to IEC/EN62040-3)	VFI-SS-111											
Load crest factor	Unlimited											
Load power factor	0.5 leading to 0.5 lagging without derating											

	50 kVA			60 kVA			80 kVA		
Output Voltage (V)	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**	**380 V**	**400 V**	**415 V**
Connections	L1, L2, L3, N, PE								
Overload capacity	150% for 1 minute 125% for 10 minutes 230% for 60 ms 1000% for 100 ms (bypass operation)								
Output voltage tolerance	± 1%								
Output power factor	0.8								
Nominal output current (A)	76	72	70	91	87	83	122	115	111
Total harmonic distortion (THDU)	< 2% at 100% linear load < 5% at 100% non-linear load (IEC 62040–3)								
Output frequency (Hz)	50/60 Hz (sync to bypass) 50/60 Hz ± 0.1% (free-running)								
Slew rate (Hz/sec)	Programmable: 0.25, 0.5, 1, 2, or 4								
Output performance classification (according to IEC/EN62040-3)	VFI-SS-111								
Load crest factor	Unlimited								
Load power factor	0.5 leading to 0.5 lagging without derating								

Battery Specifications

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Charging power in % of output power	20						
Nominal battery voltage (VDC)	384						
Nominal float voltage (VDC)	436 (adjustable up to 490)						
Boost charge voltage (VDC)	480 (adjustable up to 540)						
End of discharge voltage (VDC)	335 (adjustable)						
Battery current at full load and nominal battery voltage (A)	22.3	44.3	66.3	88.5	110.5	132.5	176.5
Battery current at full load and minimum battery voltage (A)	26.2	52.1	77.9	104.1	130.0	155.9	207.6
Restored energy time to 90% charge	8 hours						
Temperature compensation	Adjustable						
Ripple current	< 1%						
Battery test	Manual or automatic (selectable)						
Deep discharge protection	Yes						
Recharge according to battery temperature	Yes						
Cold start	Yes						

Required Upstream Protection

Input Fuse or Circuit Breaker

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Input – 3–phase (A)	32	50	100 (80)[1]	100	125	160	200
Bypass – 1–phase (A)	63	125	200	250	300	350	500
Bypass – 1–phase with transformer (A)	63	125	100	160	200	200	315
Bypass – 3–phase (A)	25	40	63	80	100	125	160

1. Without transformer T001 and T401 **or** with transformer T401 only

Recommended Cable Sizes

⚠DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Use power cables of equal resistance, equal length, and equal size for the same function.

Failure to follow these instructions will result in death or serious injury.

NOTE: The maximum cable length is 100 meters.

Cable sizes in this manual are based on table 52–C2 of IEC 60364–5–52 with the following assertions:

- 90 °C conductors
- Use of copper conductors
- An ambient temperature of 30 °C
- 400 V/230 V and grouping of four cables

If the ambient temperature is greater than 30 °C, larger conductors are to be selected with the correction factors of the IEC.

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Input – 3–phase (mm²)	10	10	16	16	25	35	50
Bypass – 1–phase (mm²)	16	35	50	70	70	95	120
Bypass – 1–phase with transformer (mm²)	16	35	25	35	50	50	95
Bypass – 3–phase (mm²)	10	10	10	16	16	16	25
Output – 1–phase (mm²)	16	35	50	70	70	95	120
Output – 3–phase (mm²)	10	10	10	16	16	16	25
Battery (mm²)[2]	16	16	25	35	50	70	95

Physical

UPS Weights and Dimensions

	Weight kg			Height mm	Width mm			Depth mm
	Without Transformer	With 1 Transformer	With 2 Transformers		Without Transformer	With 1 Transformer	With 2 Transformers	
10 kVA UPS	310	420	530	2100	600	600	600	800
20 kVA UPS	310	455	600	2100	600	600	600	800
30 kVA UPS	340	520	700	2100	600	600	600	800
40 kVA UPS	340	545	750	2100	600	600	600	800
50 kVA UPS	420	720	1020	2100	600	1000	1000	800
60 kVA UPS	420	720	1020	2100	600	1000	1000	800
80 kVA UPS	460	820	1180	2100	600	1000	1000	800

2. Based on 30 m battery cable length at maximum voltage 540 VDC.

UPS Shipping Weights and Dimensions

	Weight kg			Height mm	Width mm			Depth mm
	Without transformer	With 1 transformer	With 2 transform-ers		Without transformer	With 1 transformer	With 2 transform-ers	
10 kVA UPS	360	470	580	2300	820	820	820	1082
20 kVA UPS	360	505	650	2300	820	820	820	1082
30 kVA UPS	390	570	750	2300	820	820	820	1082
40 kVA UPS	390	595	800	2300	820	820	820	1082
50 kVA UPS	500	800	1100	2300	820	1220	1220	1082
60 kVA UPS	500	800	1100	2300	820	1220	1220	1082
80 kVA UPS	540	900	1260	2300	820	1220	1220	1082

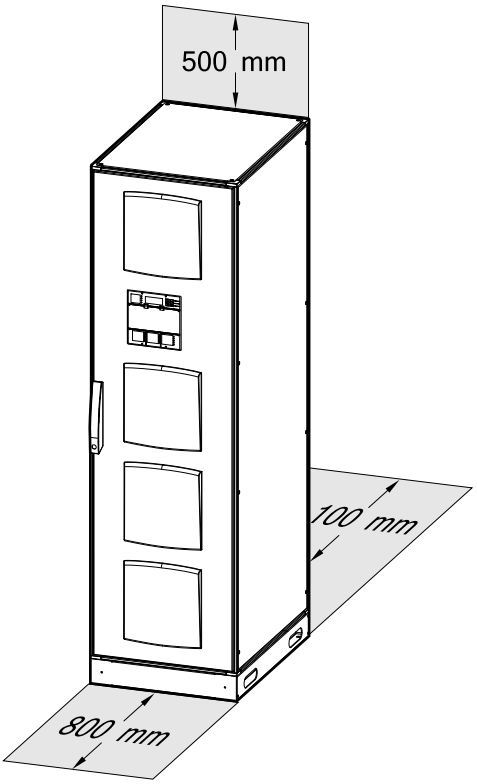
Auxiliary Cabinet Weights and Dimensions

	Weight kg	Height mm	Width mm	Depth mm
Top entry cabinet	UPS + 150	2100	UPS + 400	800
Auxiliary cabinet with bypass transformer for 10 kVA UPS	UPS + 240	2100	UPS + 400	800
Auxiliary cabinet with bypass transformer for 20 kVA UPS	UPS + 290	2100	UPS + 400	800
Auxiliary cabinet with bypass transformer for 30 kVA UPS	UPS + 330	2100	UPS + 400	800
Auxiliary cabinet with bypass transformer for 40 kVA UPS	UPS + 355	2100	UPS + 400	800
Auxiliary cabinet with bypass transformer for 50 kVA UPS	UPS + 400	2100	UPS + 600	800
Auxiliary cabinet with bypass transformer for 60 kVA UPS	UPS + 400	2100	UPS + 600	800
Auxiliary cabinet with bypass transformer for 80 kVA UPS	UPS + 440	2100	UPS + 600	800

Clearance

The UPS system can be placed up against the wall. Leave a distance of 100 mm (4 in) between the UPS and the wall.

NOTE: Clearance dimensions are published for airflow only. Consult with the local safety codes and standards for additional requirements in your local area.



Environment

	Operating	Storage
Temperature	-10 °C to 40 °C[3]	-15 °C to 40 °C for systems with batteries -30 °C to 80 °C for systems without batteries
Relative humidity	0-95% non-condensing	0-95% non-condensing
Elevation according to IEC 62040–3	1000 m: 1.000 1500 m: 0.975 2000 m: 0.950 2500 m: 0.925 3000 m: 0.900	≤ 5000 m above sea-level (or in an environment with equivalent air pressure)
Audible noise (1 meter from surface)	55 dBA at 70% load 65 dBA at 100% load	
Protection class	IP 42 and air filter	
Color	RAL7035	

Heat Dissipation

Without Transformer

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Heat dissipation at 100% load (BTU/hr)	1963	3429	4959	6490	8081	9551	12539
Heat dissipation at 75% load (BTU/hr)	1447	2522	3645	4768	5937	7014	9206
Heat dissipation at 50% load (BTU/hr)	931	1615	2330	3046	3793	4478	5874
Heat dissipation at 25% load (BTU/hr)	683	1235	1803	2372	2957	3510	4628

With Rectifier Input Transformer (T001) or Inverter Output Transformer (T401)

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Heat dissipation at 100% load (BTU/hr)	3193	5847	8570	11294	14084	16741	22109
Heat dissipation at 75% load (BTU/hr)	2369	4333	6350	8366	10433	12401	16376
Heat dissipation at 50% load (BTU/hr)	1544	2819	4130	5440	6783	8061	10643
Heat dissipation at 25% load (BTU/hr)	998	1855	2729	3604	4496	5354	7082

With Rectifier Input Transformer (T001) and Inverter Output Transformer (T401)

	10 kVA	20 kVA	30 kVA	40 kVA	50 kVA	60 kVA	80 kVA
Heat dissipation at 100% load (BTU/hr)	4444	8302	12237	16171	20178	24042	31826
Heat dissipation at 75% load (BTU/hr)	3305	6172	9096	12021	14999	17870	23655
Heat dissipation at 50% load (BTU/hr)	2167	4043	5957	7871	9820	11699	15484
Heat dissipation at 25% load (BTU/hr)	1319	2484	3670	4855	6059	7226	9574

3. Up to 55 °C with derating

Options

- Top cable entry with auxiliary cabinet
- 10-12 years VRLA batteries in cabinet with same design for 30 minutes and 60 minutes backup time
- Galvanic isolation transformer
  - Rectifier input
  - Inverter output
  - Bypass input
- External battery breaker box
- Battery temperature monitor and sensor
- Communication interfaces
  - Additional Network Management Card
  - IEC61850
- Seismic kit
- DNV kit
- Redundant configuration (N+1)

Limited Factory Warranty

One-Year Factory Warranty

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990–5728C–001