Technical Data Sheet

RIDA260-K-SW Inverter

180W-220W / Wide Range

DC/AC Inverter

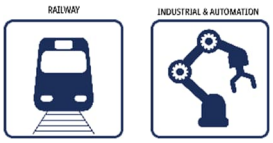
FEATURES

- Sine Wave Output Voltage
- Selectable Output Frequency: 50/60Hz
- Adjustable Output Voltage
- Output Failure alarm
- Remote Inhibit
- High input-output isolation 3000Vrms
- Optional Railway Version EN50155
- Fire and Smoke: EN45545-2 Approved



Dimensions: 220.0mm x 100.0mm x 40.0mm (8.66"x 3.94"x 1.57")

APPLICATION



SAFETY & EMC

- The inverter follows LVD Directive 2014/35/EU and EMC Directive 2014/30/EU.
- The inverter is CE compliant. EMC radiation must be evaluated and tested in the complete system since mounting and wiring have a large influence on radiation behavior.

DESCRIPTION

The RIDA260-K-SW is a DC/AC inverter providing a pure sine wave output voltage with selectable 50 Hz or 60 Hz frequency and adjustable output voltage. The unit features an output failure alarm and remote inhibit function, allowing integration into monitored and remotely controlled systems. High input-to-output galvanic isolation up to 3000 Vrms ensures safe operation. An optional railway version compliant with EN 50155 is available, and the inverter meets fire and smoke requirements according to EN 45545-2. The compact mechanical design measures 220 mm × 100 mm × 40 mm.

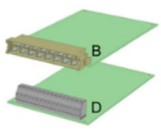
MODELS

Part Number	Input Voltage nom. [VDC]	Input Current Max [A]	Output Voltage nom. [VAC]	Output Current Rated [A]	Output Power Max [W]	Appar.Output Power [VA]
RIDA260-12-120-K-SW-180W(1)	12	22.3	120	1.50	180	260
RIDA260-24-120-K-SW-200W	24	13.7	120	1.67	200	260
RIDA260-36-120-K-SW-220W	36	10.0	120	1,83	220	260
RIDA260-48-120-K-SW-220W	48	7.45	120	1,83	220	260
RIDA260-72-120-K-SW-220W	72	4.97	120	1,83	220	260
RIDA260-110-120-K-SW-220W	110	3.22	120	1,83	220	260
RIDA260-12-230-K-SW-180W	12	22.1	230	0.78	180	260
RIDA260-24-230-K-SW-200W	24	13.7	230	0.87	200	260
RIDA260-36-230-K-SW-220W	36	10.0	230	0.96	220	260
RIDA260-48-230-K-SW-220W	48	7.36	230	0.96	220	260
RIDA260-72-230-K-SW-220W	72	4.91	230	0.96	220	260
RIDA260-110-230-K-SW-220W	110	3.17	230	0.96	220	260

Note (1): Startup voltage ≤10.2V. Under-voltage shutdown ≤ 9.1V

RIDA260- - -SW- -

- Series
- Input Voltage
- Output Voltage
- **PRT** Railway (optional)
- PRB Connector DIN416112H15
  PRD Spring clamp erminals



Accessories must be ordered in a separate order line.

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BASIC CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.
	INPUT			
Rated Input Voltage	RIDA260-12-120-K-SW-180W		12VDC	
	RIDA260-24-120-K-SW-200W		24VDC	
	RIDA260-36-120-K-SW-220W		36VDC	
	RIDA260-48-120-K-SW-220W		48VDC	
	RIDA260-72-120-K-SW-220W		72VDC	
	RIDA260-110-120-K-SW-220W		110VDC	
	RIDA260-12-230-K-SW-180W		12VDC	
	RIDA260-24-230-K-SW-200W		24VDC	
	RIDA260-36-230-K-SW-220W		36VDC	
	RIDA260-48-230-K-SW-220W		48VDC	
	RIDA260-72-230-K-SW-220W		72VDC	
	RIDA260-110-230-K-SW-220W		110VDC	
Input Voltage Range	RIDA260-12-120-K-SW-180W	9.50VDC		15.0VDC
	RIDA260-24-120-K-SW-200W	16.8VDC		30.0VDC
	RIDA260-36-120-K-SW-220W	25.0VDC		45.0VDC
	RIDA260-48-120-K-SW-220W	33.6VDC		60.0VDC
	RIDA260-72-120-K-SW-220W	50.4VDC		90.0VDC
	RIDA260-110-120-K-SW-220W	77.0VDC		138.0VDC
	RIDA260-12-230-K-SW-180W	9.50VDC		15.0VDC
	RIDA260-24-230-K-SW-200W	16.8VDC		30.0VDC
	RIDA260-36-230-K-SW-220W	25.0VDC		45.0VDC
	RIDA260-48-230-K-SW-220W	33.6VDC		60.0VDC
	RIDA260-72-230-K-SW-220W	50.4VDC		90.0VDC
	RIDA260-110-230-K-SW-220W	77.0VDC		138.0VDC
Input Current (min no load)	RIDA260-12-120-K-SW-180W	0.65A		22.3A
	RIDA260-24-120-K-SW-200W	0.35A		13.7A
	RIDA260-36-120-K-SW-220W	0.21A		10.0A
	RIDA260-48-120-K-SW-220W	0.15A		7.45A
	RIDA260-72-120-K-SW-220W	0.12A		4.97A
	RIDA260-110-120-K-SW-220W	0.08A		3.22A
	RIDA260-12-230-K-SW-180W	0.65A		22.1A
	RIDA260-24-230-K-SW-200W	0.37A		13.7A
	RIDA260-36-230-K-SW-220W	0.21A		10.0A
	RIDA260-48-230-K-SW-220W	0.17A		7.36A
	RIDA260-72-230-K-SW-220W	0.12A		4.91A
	RIDA260-110-230-K-SW-220W	0.08A		3.17A
Efficiency	RIDA260-12-120-K-SW-180W		85%	
	RIDA260-24-120-K-SW-200W		87%	
	RIDA260-36-120-K-SW-220W		88%	
	RIDA260-48-120-K-SW-220W		88%	
	RIDA260-72-120-K-SW-220W		88%	
	RIDA260-110-120-K-SW-220W		89%	
	RIDA260-12-230-K-SW-180W		86%	
	RIDA260-24-230-K-SW-200W		87%	
	RIDA260-36-230-K-SW-220W		88%	
	RIDA260-48-230-K-SW-220W		89%	
	RIDA260-72-230-K-SW-220W		89%	
	RIDA260-110-230-K-SW-220W		90%	
Max Input Ripple	Vin nom (Vrms, 100Hz)			5%

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BASIC CHARACTERISTICS

OUTPUT

Parameter	Conditions	Min.	Typ.	Max.
Rated Output Voltage	RIDA260-12-120-K-SW-180W - RIDA260-24-120-K-SW-200W – RIDA260-36-120-K-SW-220W - RIDA260-48-120-K-SW-220W – RIDA260-72-120-K-SW-220W - RIDA260-110-120-K-SW-220W		120VAC	
	RIDA260-12-230-K-SW-180W - RIDA260-24-230-K-SW-200W – RIDA260-36-230-K-SW-220W - RIDA260-48-230-K-SW-220W – RIDA260-72-230-K-SW-220W - RIDA260-110-230-K-SW-220W		230VAC	
Rated Output Current	RIDA260-12-120-K-SW-180W		1.50A	
	RIDA260-24-120-K-SW-200W		1.67A	
	RIDA260-36-120-K-SW-220W - RIDA260-48-120-K-SW-220W – RIDA260-72-120-K-SW-220W - RIDA260-110-120-K-SW-220W		1,83A	
	RIDA260-12-230-K-SW-180W		0.78A	
	RIDA260-24-230-K-SW-200W		0.87A	
	RIDA260-36-230-K-SW-220W - RIDA260-48-230-K-SW-220W – RIDA260-72-230-K-SW-220W - RIDA260-110-230-K-SW-220W		0.96A	
Output Peak Current (10ms)	RIDA260-12-120-K-SW-180W - RIDA260-24-120-K-SW-200W – RIDA260-36-120-K-SW-220W - RIDA260-48-120-K-SW-220W – RIDA260-72-120-K-SW-220W - RIDA260-110-120-K-SW-220W		7.6A	
	RIDA260-12-230-K-SW-180W - RIDA260-24-230-K-SW-200W – RIDA260-36-230-K-SW-220W - RIDA260-48-230-K-SW-220W – RIDA260-72-230-K-SW-220W - RIDA260-110-230-K-SW-220W		4.0A	
Adjust range	± 5% of Vonom			
Rated Output Frequency		50Hz		60Hz
Range Output Frequency		49.75Hz		60.25Hz
Max. Ouput Power	RIDA260-12-230-K-SW-180W		180W	
	RIDA260-24-230-K-SW-200W		200W	
	RIDA260-36-230-K-SW-220W - RIDA260-48-230-K-SW-220W RIDA260-72-230-K-SW-220W - RIDA260-110-230-K-SW-220W		220W	
	RIDA260-12-120-K-SW-180W		180W	
	RIDA260-24-120-K-SW-200W		200W	
	RIDA260-36-120-K-SW-220W - RIDA260-48-120-K-SW-220W RIDA260-72-120-K-SW-220W - RIDA260-110-120-K-SW-220W		220W	
Load regulation				4%
Line regulation	ΔVin -20% - +25%			0.4%
	ΔVin -30% - +25%			10%
	ΔVin -10% - +25% for 12V Input model			1%
	ΔVin -20% - +25% for 12V Input model			10%
Output Wave Distortion THD	Average of 16 samples			2%
Output Voltage HF Ripple	For 230Vac models			20Vpp
	For 120Vac models			10Vpp

CONTROL

Parameter	Conditions
Output Failure Alarm	Solid state relay, open when alarm Max: 60V, 0.3A
Remote Inhibit	4 - 24VDC

ENVIROMENTAL CONDITIONS

Parameter	Conditions	Min.	Typ.	Max.
Operating Temperature Range	At full load (EN 50155)	-40°C		+55°C
	At 62.5% load (EN 50155)	-40°C		+70°C
Storage Temperature Range		-40°C		+80°C
Operating Relative Humidity		5%		95%
Storage and Transportation Humidity		5%RH		95%RH
Operating Altitude				1800m
Cooling	Natural convection			
MTBF	MIL-HDBK-217-E; G_b,25°C		250000h	

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SAFETY AND PROTECTIVE FUNCTIONS				
Parameter	**Conditions**	**Min.**	**Typ.**	**Max.**
Dielectrics withstand voltage (@50Hz /1m)	Input - Output		3000Vrms	
	Output – P.E.		1500Vrms	
	Input – P.E.		1000Vrms	
Against input over-currents	Internal Fuse			
Against output overload < Iompk	Linear			
Against output overload > Iompk	Triggered			

CERTIFICATIONS	
Compliance	**Standard / Criterion**
RoHS + RoHS2 Restriction of the use of certain hazardous substances in electrical and electronic equipment	RoHS 2011/65/EU + AM2015/863/EU
Reach Regulation	EC 1907/2006
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances	EN IEC63000:2018
CE conformity	CE
UKCA conformity	UKCA
Fire Protection on Railway Vehicles	EN 45545-2 approved

CERTIFICATIONS	
Safety	
Compliance	**Standard / Criterion**
Safety according to	EN60950-1, EN62368-1 Class I OV category II, Pollution degree 2 Input / output isolation: reinforced
Railway Applications - Electrical Equipment used on rolling stock (Option PRT)	EN 50155 :2021

CERTIFICATIONS	
EMC Compliance	
Compliance	**Standard / Criterion**
EMC Electromagnetic compatibility regulations	2014/30/EU SI 2016 No 1091
Generic Immunity standard	EN 61000-6-2 :2019 EN50121-3-2: 2019
Generic Emission standard	EN 61000-6-4 :2019 EN50121-3-2: 2019
Railway applications. EMC Rolling stock equipment	EN 50121-3-2 :2019

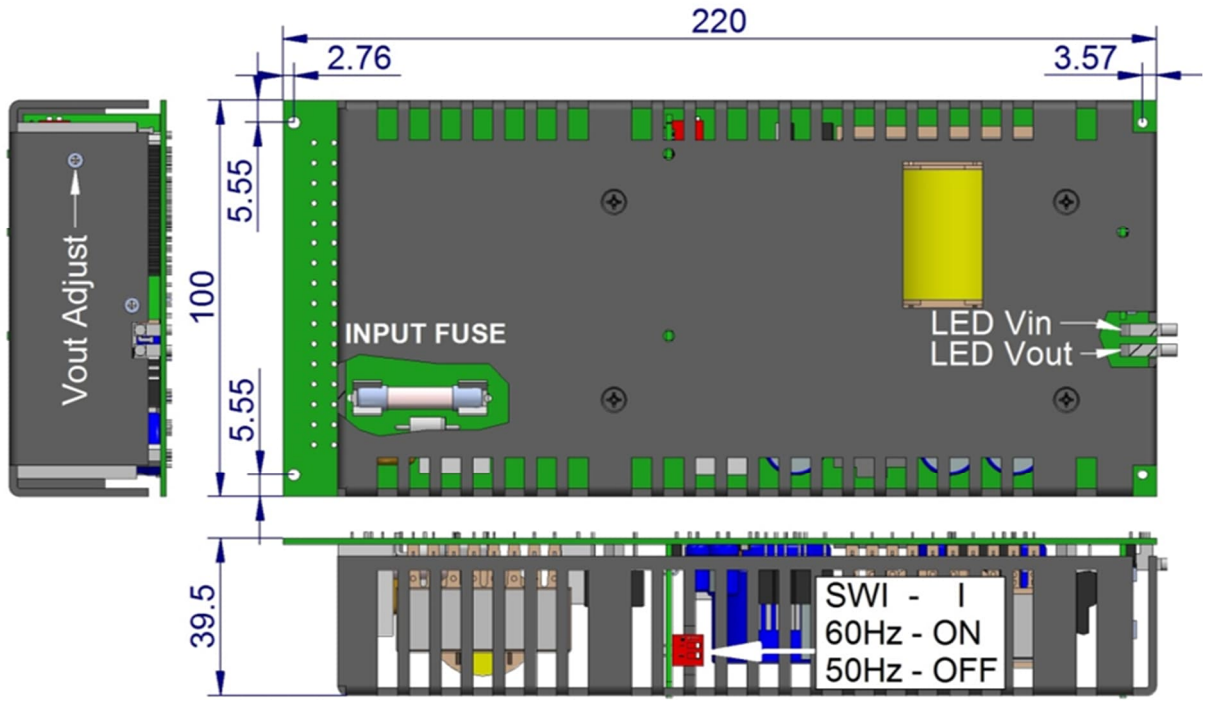
CERTIFICATIONS	
Shock and vibration	
Compliance	**Standard / Criterion**
Shock and Vibration	EN 61373 :2010

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MECHANICAL DATA				
Parameter	Conditions	Min.	Typ.	Max.
Weight			900g - 1.984lb	
Protective Coating for PCB assemblies			Class PC2	
Length			220mm – 8.66”	
Width			100mm – 3.94”	
Height			40mm – 1.57”	

DIMENSIONS

Drawing dimensions in mm



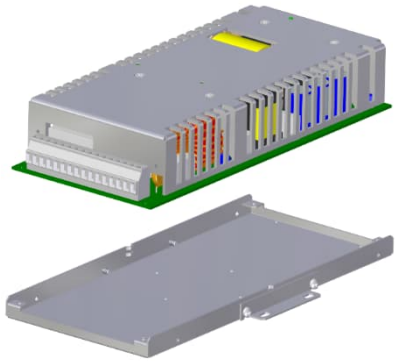
INPUT FUSE Size 6.3x32mm			
MODEL	RATING	MODEL	RATING
RIDA260-12-120-K-SW-180W RIDA260-12-230-K-SW-180W	T 30A	RIDA260-48-120-K-SW-220W RIDA260-48-230-K-SW-220W	T 8.0A
RIDA260-24-120-K-SW-200W RIDA260-24-230-K-SW-200W	T 15A	RIDA260-72-120-K-SW-220W RIDA260-72-230-K-SW-220W	T 6.3A
RIDA260-36-120-K-SW-220W RIDA260-36-230-K-SW-220W	T 12A	RIDA260-110-120-K-SW-220W RIDA260-110-230-K-SW-220W	T 4.0A

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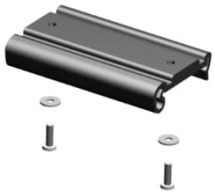
ACCESSORIES

Description	Notes	Code
Mounting base	Screw included	PR-9125
DIN RAIL CLIP for mounting base	Screw included	PR-9135
Front plate 19'' subrack (3U 10TE)	Screws and LED light guide included	PR-9289
FR4 PCB solder side cover protection	Screw included	PR-9647

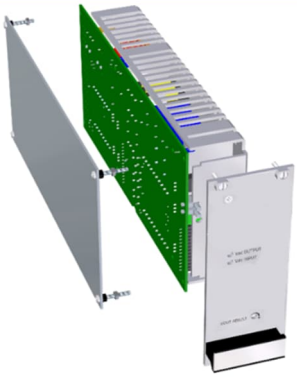
PR-9289



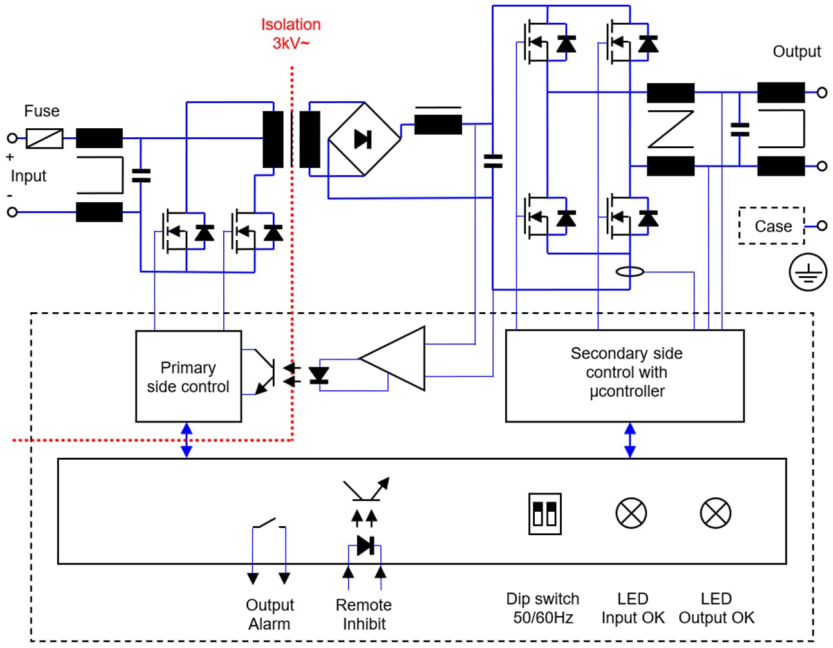
PR-9125



PR-9647 - PR-9135



BLOCK DIAGRAM



DESCRIPTION

The RIDA260 consists of sine-wave 120Vac or 230Vac output voltage DC-AC inverters. The frequency can be set to 50Hz or 60 Hz, and input and output are galvanically isolated.

The RIDA260 inverters consist of two cascaded inverters, one DC-DC generating an intermediate output voltage from the input voltage. That intermediate voltage is inverted to supply the output voltage and frequency by means of a second DC/AC inverter.

The input is protected against reverse polarity by means of fuse and against under-voltage by unit shutdown.

The output has protection of maximum average power and maximum peak current. The unit shutdowns when the operation curve limit is exceeded for more than one second. Every 2 seconds after shutdown, the unit tries to restart up to 3 times. If the overload persists, the unit remains shutdown until an input reconnection.

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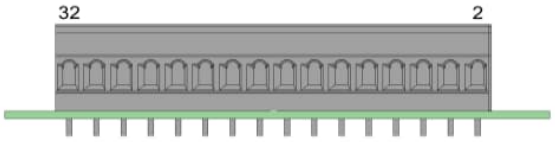
CONNECTIONS

Connection	Terminal
-Vin	2, 4, 6
+Vin	8, 10
-Inhibit	12
+Inhibit	14
-Alarm	16
+Alarm	18
N	22, 24
L	28, 30
P..E	32

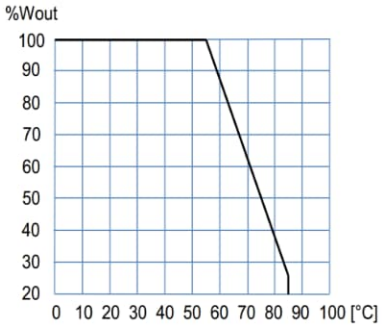
Connector DIN41612H15 (Max.12A / Terminal)



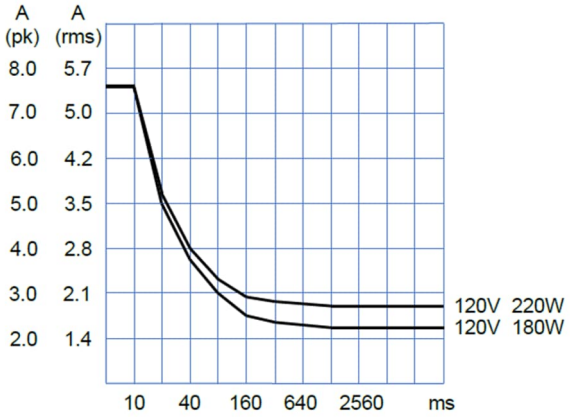
Spring clamp terminals (Max. 12A / Term

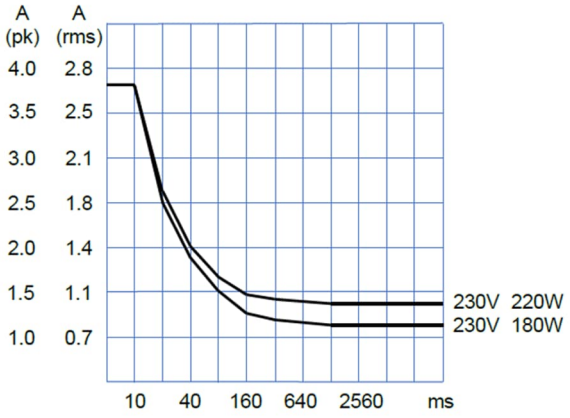


POWER DERATING vs AMBIENT TEMPERATURE



OPERATION CURVE LIMITS





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INSTALLATION

There are two connecting options: spring clamp terminal strip and DIN41612H15 connector.

The product can be mounted in several ways:

- On a chassis by means of the 4 corner holes.
- In EUROCARD racks. For this application there is a standard 10Te front plate accessory RP-9289
- With the mounting base RP-9125. This accessory can be mounted on a chassis or in DIN rail adding the clip accessory RP-9135.

Make connections as shown in the connections table.
The default output frequency is 50Hz. For 60Hz simply actuate the dip-switch as indicated in the figure.
The inverter includes active overload protection but does not provide protection against prolonged reactive overload conditions. Therefore, the maximum power output (VA) should not be exceeded

For safety reasons, the following requirements must be met:

- Provide the equipment with some kind of protective enclosure that complies with the electrical safety directives in effect within the country where the equipment is installed.
- Use cables of adequate cross-section to connect inputs and outputs. The following table lists the maximum cross-section for the cable used each power connection (see the table below).

	Input 12VDC	Input 24VDC	Input 36VDC	Input 48VDC	Input 72VDC	Input 110VDC	Output 120VAC	Output 230VAC
Max. current	23A	14A	10A	7.4A	5.0A	3.2A	2.2A	1.2A
CABLE CROSS-SECTION	**2.5mm²**	**1.5mm²**	**1.5mm²**	**1mm²**	**0.75mm²**	**0.75mm²**	**0.75mm²**	**0.75mm²**

WARRANTY AND GUARANTEE

The warranty corresponds to the regulations in our currently valid general terms and conditions.

INSTRUCTIONS REGARDING DISPOSAL

A basic requirement for the re-use and recycling of used electronic devices is the correct disposal. With the implementation of the electric and electronic device regulation, electronic devices may no longer be disposed of along with ordinary household waste but must be separately collected and recorded by a specialist service.
Disposal through a specialist service significantly helps to avoid dangers to people and nature. Therefore, in the case of disposal, we recommend contacting a recognized specialist disposal service.

REQUIREMENTS ON THE OPERATION PERSONNEL

All courses of action described in this manual may only be carried out by a qualified electrician! Specialist staff are defined as electricians who have had

- specific professional training
- have knowledge and experience in the field of electronics
- as well as knowledge of relevant provisions and dangers for which they can provide proof. Furthermore, they must be able to assess the work assigned to them independently, identify possible dangers, and establish necessary protection measures.

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.