

## Uninterruptible power supply - TRIO- UPS-2G/1AC/1AC/230V/750VA - 2905909

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1AC/1AC/750 VA uninterruptible power supply with integrated energy storage, lead AGM, VRLA technology, 24 V DC, 3.4 Ah for 230 V AC applications.

### Product Description

UPS modules with integrated energy storage are particularly space saving: UPS module and energy storage are combined in one housing. The TRIO AC-UPS ensures seamless transition to battery operation thanks to the pure sine curve. Connected industrial PCs can be shut down safely via the integrated USB interface.

### Your advantages

- ✓ Smooth transition, thanks to the pure sine curve: the sine generated in battery operation is synchronous with the mains previously used for supply
- ✓ Space saving: UPS module and energy storage combined in one housing
- ✓ Long buffer times with integrated VRLA energy storage, can be extended with additional energy storage
- ✓ USB interface for connection to higher-level controllers such as industrial PCs
- ✓ Startup from energy storage possible, even without mains input



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 055626 007502 |
| GTIN         | 4055626007502                                                                                           |

### Technical data

#### Dimensions

|                                  |               |
|----------------------------------|---------------|
| Width                            | 210 mm        |
| Height                           | 170 mm        |
| Depth                            | 136 mm        |
| Installation distance right/left | 0 mm / 0 mm   |
| Installation distance top/bottom | 50 mm / 50 mm |

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## Technical data

### Ambient conditions

|                                                |                                                       |
|------------------------------------------------|-------------------------------------------------------|
| Ambient temperature (operation)                | 0 °C ... 40 °C                                        |
| Ambient temperature (storage/transport)        | -15 °C ... 40 °C (with charged energy storage device) |
| Max. permissible relative humidity (operation) | ≤ 95 % (25 °C, non-condensing)                        |
| Maximum altitude                               | ≤ 3000 m (> 2000 m, observe derating)                 |
| Vibration (operation)                          | 5 Hz ... 100 Hz, 0.7g (EN 60068-2-6)                  |
| Shock                                          | 20g in all directions (EN 60068-2-27)                 |
|                                                | 30g in each space direction with UWA 130              |
| Degree of pollution                            | 2                                                     |
| Climatic class                                 | 3K3 (in acc. with EN 60721)                           |

### Input data

|                         |                       |
|-------------------------|-----------------------|
| Nominal input voltage   | 230 V AC              |
| Input voltage range     | 184 V AC ... 264 V AC |
| Frequency range         | 45 Hz ... 65 Hz       |
|                         | 55 Hz ... 65 Hz       |
| Current consumption     | 3 A                   |
| Permissible backup fuse | B6 B10 B16            |

### Connection data, input

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Push-in connection  |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 4 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 12                  |
| Stripping length                      | 10 mm               |

### Output data

|                                         |            |
|-----------------------------------------|------------|
| Apparent power                          | 750 VA     |
| Rated Power (Real Power)                | 600 W      |
| Power factor (cos phi)                  | 0.8        |
| Crest factor                            | 2.8        |
| Switch-over time                        | < 10 ms    |
| Classification according to IEC 62040-3 | VFD-SS-311 |

### Output data (mains operation)

|                                          |              |
|------------------------------------------|--------------|
| Nominal output voltage (U <sub>N</sub> ) | 230 V AC     |
| Nominal output current (I <sub>N</sub> ) | 3 A (750 VA) |

### Output data (battery operation)

|                                          |          |
|------------------------------------------|----------|
| Nominal output voltage (U <sub>N</sub> ) | 230 V AC |
|------------------------------------------|----------|

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## Technical data

### Output data (battery operation)

|                                                          |              |
|----------------------------------------------------------|--------------|
| Nominal output current (I <sub>N</sub> )                 | 3 A (750 VA) |
| Form of output voltage                                   | Pure sine    |
| Frequency (after automatic detection in mains operation) | 50 Hz        |
|                                                          | 60 Hz        |

### Connection data, output

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Push-in connection  |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 4 mm <sup>2</sup>   |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 2.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 12                  |
| Stripping length                      | 10 mm               |

### General data

|                            |                                             |
|----------------------------|---------------------------------------------|
| Efficiency                 | > 95 % (with charged energy storage device) |
| MTBF (IEC 61709, SN 29500) | > 206000 h (40 °C)                          |
| Degree of protection       | IP20                                        |
| Protection class           | I                                           |
| Type of housing            | DX51D+AZ (steel sheet / Galvalume)          |
| Hood version               | PC + ABS                                    |
| Input fuse                 | 10 A 400 V gRL                              |
| Weight                     | 5.7 kg                                      |

### Energy storage

|                                       |                                  |
|---------------------------------------|----------------------------------|
| Battery technology                    | Lead rechargeable battery module |
| Accumulator type                      | 2x Panasonic UP-VW1220P1         |
| Capacity                              | 3.4 Ah                           |
| Battery fuse                          | 40 A, 32 V                       |
| Charging time                         | 7 h                              |
| Service life                          | 6 Years ... 9 Years (20 °C)      |
| Latest startup                        | 6 Months (0 °C ... 20 °C)        |
| Buffer period                         | 20 min. (100 W)                  |
|                                       | 4 min. (300 W)                   |
|                                       | 1 min. (600 W)                   |
| Can be extended with external battery | 1x 24 V 3.4 Ah                   |

### Connection data for the external battery

|                                    |                     |
|------------------------------------|---------------------|
| Connection method                  | Push-in connection  |
| Conductor cross section solid min. | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max. | 10 mm <sup>2</sup>  |

# Uninterruptible power supply - TRIO-UPS-2G/1AC/1AC/230V/750VA - 2905909

## Technical data

### Connection data for the external battery

|                                       |                     |
|---------------------------------------|---------------------|
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 6 mm <sup>2</sup>   |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 8                   |
| Stripping length                      | 15 mm               |

### Status and diagnostics indicator / signal outputs - Alarm

|                         |                           |
|-------------------------|---------------------------|
| Switching output        | Transistor output, active |
| Output voltage          | 24 V (SELV)               |
| Continuous load current | ≤ 20 mA                   |
| Status display          | LED red                   |

### Status and diagnostics indicator / signal outputs - Battery Mode

|                         |                           |
|-------------------------|---------------------------|
| Switching output        | Transistor output, active |
| Output voltage          | 24 V (SELV)               |
| Continuous load current | ≤ 20 mA                   |
| Status display          | Yellow LED                |

### Status and diagnostics indicator / signal outputs - Ready

|                         |                           |
|-------------------------|---------------------------|
| Switching output        | Transistor output, active |
| Output voltage          | 24 V (SELV)               |
| Continuous load current | ≤ 20 mA                   |

### Status and diagnostics indicator / signal outputs - Battery Charge

|                |            |
|----------------|------------|
| Status display | Yellow LED |
|----------------|------------|

### Status and diagnostics indicator / signal outputs - AC OK, P>Pn, Remote

|                |           |
|----------------|-----------|
| Status display | Green LED |
|----------------|-----------|

### Status and diagnostics indicator / signal outputs - Service

|                |         |
|----------------|---------|
| Status display | LED red |
|----------------|---------|

### Connection data for signaling

|                                       |                     |
|---------------------------------------|---------------------|
| Connection method                     | Push-in connection  |
| Conductor cross section solid min.    | 0.2 mm <sup>2</sup> |
| Conductor cross section solid max.    | 1.5 mm <sup>2</sup> |
| Conductor cross section flexible min. | 0.2 mm <sup>2</sup> |
| Conductor cross section flexible max. | 1.5 mm <sup>2</sup> |
| Conductor cross section AWG min.      | 24                  |
| Conductor cross section AWG max.      | 16                  |
| Stripping length                      | 8 mm                |

# Uninterruptible power supply - TRIO- UPS-2G/1AC/1AC/230V/750VA - 2905909

## Technical data

### Remote control

|             |                                        |
|-------------|----------------------------------------|
| Designation | Remote                                 |
| Low signal  | Connection to SGnd with < 2.7 kΩ       |
| High signal | Open (> 35 kΩ between remote and SGnd) |

### Battery-operated start (bat. start)

|             |                                             |
|-------------|---------------------------------------------|
| Low signal  | Connection to SGnd with < 2.7 kΩ            |
| High signal | Open (> 200 kΩ between bat. start and SGnd) |

### Interfaces

|           |                 |
|-----------|-----------------|
| Interface | MINI-USB type B |
|-----------|-----------------|

### Device combinations

|                            |    |
|----------------------------|----|
| UPS connection in parallel | no |
| UPS connection in series   | no |

### Standards

|                                               |            |
|-----------------------------------------------|------------|
| Standard uninterruptible power supply systems | EN 62040-1 |
|-----------------------------------------------|------------|

### EMC data

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| Electromagnetic compatibility | Conformance with EMC Directive 2014/30/EU         |
| Low Voltage Directive         | Conformance with Low Voltage Directive 2014/35/EC |
| Electrostatic discharge       | EN 61000-4-2                                      |
| Contact discharge             | 6 kV (Test Level 3)                               |
| Discharge in air              | 8 kV (Test Level 3)                               |
| Electromagnetic HF field      | EN 61000-4-3                                      |
| Frequency range               | 80 MHz ... 3 GHz                                  |
| Test field strength           | 10 V/m                                            |
| Comments                      | Criterion A                                       |
| Fast transients (burst)       | EN 61000-4-4                                      |
| Input                         | 2 kV (Test Level 3 - asymmetrical)                |
|                               | 2 kV (Test Level 3 - asymmetrical)                |
| Output                        | 2 kV (Test Level 3 - asymmetrical)                |
| Signal                        | 2 kV (Test Level 3 - asymmetrical)                |
|                               | 2 kV (Test Level 3 - asymmetrical)                |
| Comments                      | Criterion A (B for USB)                           |
| Surge voltage load (surge)    | EN 61000-4-5                                      |
| Input                         | 1 kV (Test Level 2 - symmetrical)                 |
|                               | 2 kV (Test Level 3 - asymmetrical)                |
| Output                        | 1 kV (Test Level 2 - symmetrical)                 |
|                               | 2 kV (Test Level 3 - asymmetrical)                |
| Signal                        | 1 kV (Test Level 2 - asymmetrical)                |
| Comments                      | Criterion A                                       |

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## Technical data

### EMC data

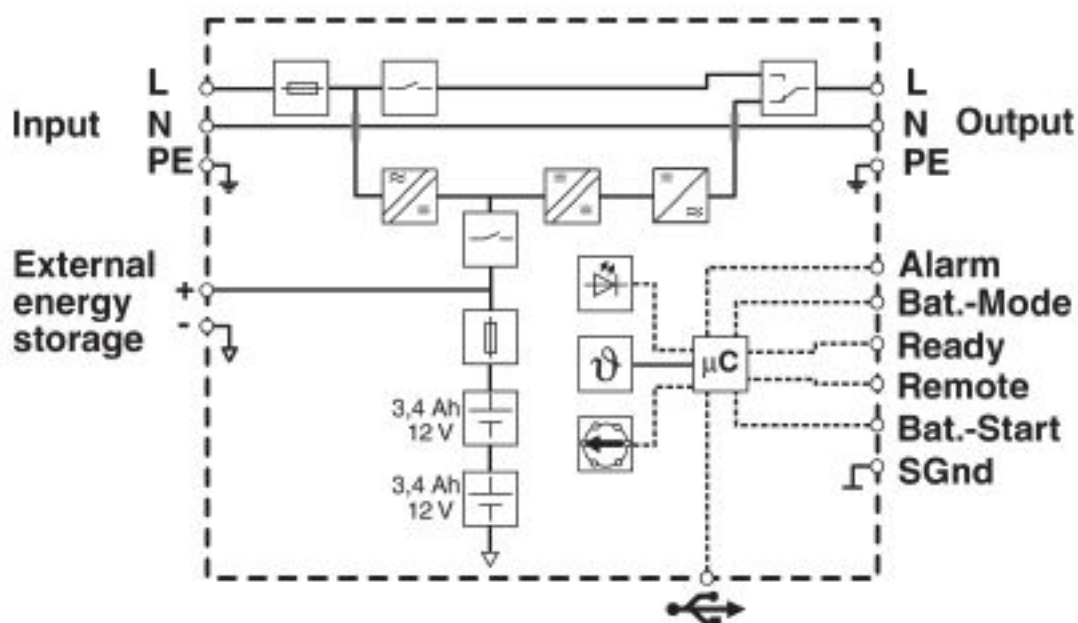
|                                |                                                                                      |
|--------------------------------|--------------------------------------------------------------------------------------|
| Conducted interference         | EN 61000-4-6                                                                         |
| Frequency range                | 0.15 MHz ... 80 MHz                                                                  |
| Voltage                        | 10 V                                                                                 |
| Comments                       | Criterion A                                                                          |
| Power frequency magnetic field | EN 61000-4-8                                                                         |
| Frequency                      | 50 Hz                                                                                |
| Test field strength            | 100 A/m                                                                              |
| Comments                       | Criterion A                                                                          |
| Criterion A                    | Normal operating behavior within the specified limits.                               |
| Criterion B                    | Temporary impairment to operational behavior that is corrected by the device itself. |

### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| China RoHS | Environmentally Friendly Use Period = 3                                                             |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Drawings

Block diagram



## Uninterruptible power supply - TRIO- UPS-2G/1AC/1AC/230V/750VA - 2905909

### Classifications

#### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27040705 |
| eCl@ss 11.0   | 27040705 |
| eCl@ss 4.0    | 27040600 |
| eCl@ss 4.1    | 27040600 |
| eCl@ss 5.0    | 27040600 |
| eCl@ss 5.1    | 27040600 |
| eCl@ss 6.0    | 27040600 |
| eCl@ss 7.0    | 27040602 |
| eCl@ss 8.0    | 27040602 |
| eCl@ss 9.0    | 27040705 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 5.0 | EC000382 |
| ETIM 6.0 | EC000382 |
| ETIM 7.0 | EC000382 |

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 39121011 |
| UNSPSC 18.0 | 39121011 |
| UNSPSC 19.0 | 39121011 |
| UNSPSC 20.0 | 39121011 |
| UNSPSC 21.0 | 39121011 |

### Approvals

#### Approvals

##### Approvals

IECEE CB Scheme / EAC / DNV GL

##### Ex Approvals

#### Approval details

|                 |                                                                                     |                                                           |                |
|-----------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------|
| IECEE CB Scheme |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DK-56005-M1-UL |
|-----------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------|

## Uninterruptible power supply - TRIO- UPS-2G/1AC/1AC/230V/750VA - 2905909

### Approvals

|     |                                                                                   |                     |
|-----|-----------------------------------------------------------------------------------|---------------------|
| EAC |  | RU*DE*08.B.01873/19 |
|-----|-----------------------------------------------------------------------------------|---------------------|

|        |                                                                                   |                                                                                   |            |
|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAA00002JM |
|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------|

### Accessories

#### Accessories

##### Assembly adapter

Assembly adapters - UWA 130 - 2901664



2-piece universal wall adapter for securely mounting the device in the event of strong vibrations. The profiles that are screwed onto the side of the device are screwed directly onto the mounting surface. The universal wall adapter is attached on the left/right.

### Battery unit

Energy storage - QUINT-BAT/24DC/ 3.4AH - 2866349



Energy storage device, lead AGM, VRLA technology, 24 V DC, 3.4 Ah. Connection via pin cable lug, 14 mm.

Uninterruptible power supply replacement battery - UPS-BAT-KIT-VRLA 2X12V/3,4AH - 2908233



Replacement battery for UPS-BAT/VRLA... energy storage

### Data cable preassembled



# Uninterruptible power supply - TRIO- UPS-2G/1AC/1AC/230V/750VA - 2905909

## Accessories

Data cable - MINI-SCREW-USB-DATACABLE - 2908217



Used for communication between an industrial PC and Phoenix Contact devices with USB-Mini-B connection.

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## Fuse

Fuse - FUSE 10A/400V GRL - 2908358



Fuse, nominal current: 10 A, length: 31.8 mm, diameter: 6.35 mm

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Fuse - FUSE 40A/32V ATOF - 2908357



Fuse, nominal current: 40 A, length: 19 mm, width: 5 mm, height: 18.8 mm

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