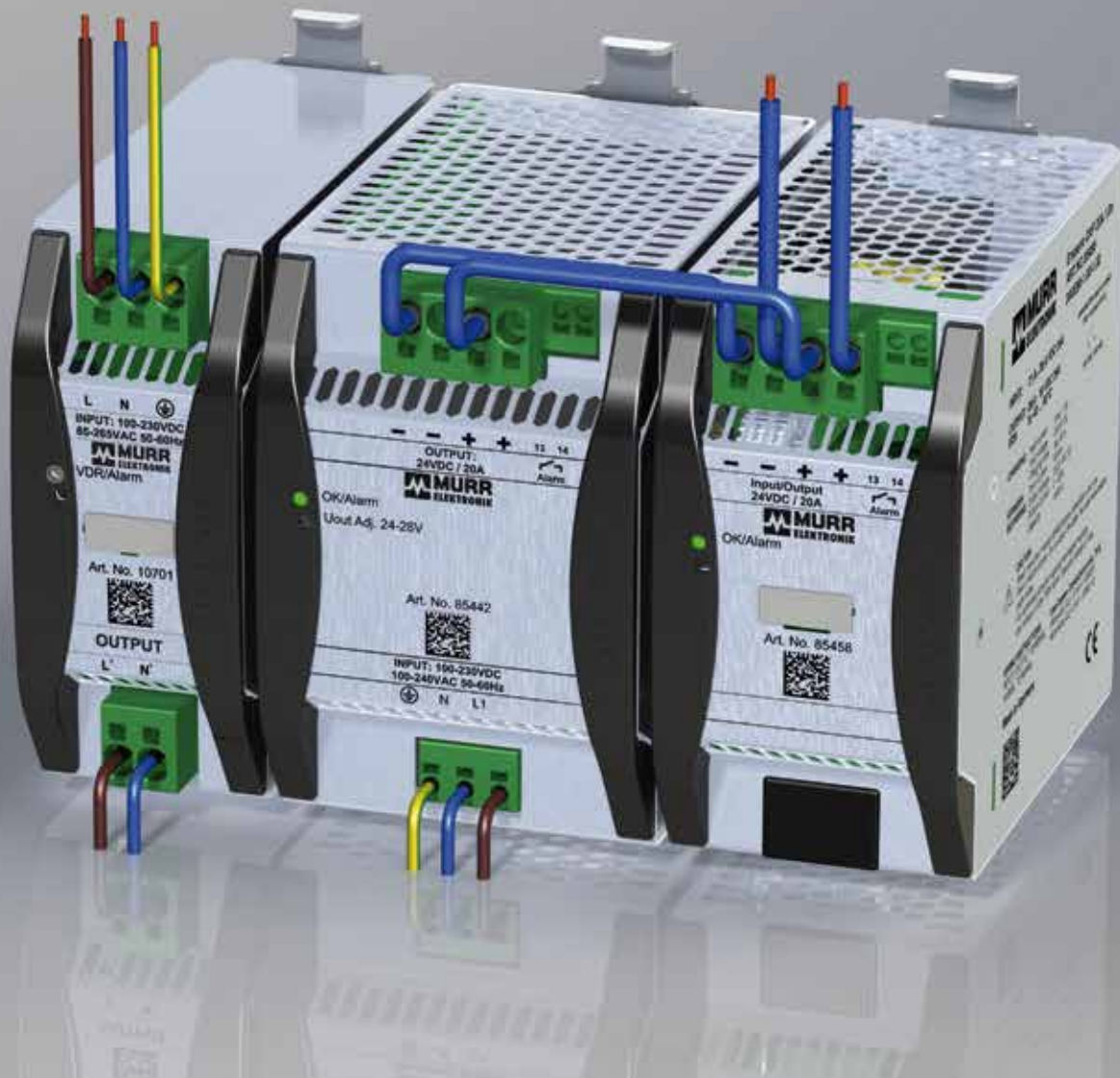


- ↘ Efficient
- ↘ Reliable
- ↘ Rugged
- ↘ Solution-oriented

SWITCH MODE POWER SUPPLIES

Power Supplies, Load Circuit Monitoring and Accessories





DID YOU KNOW?

FACTS ABOUT MURRELEKTRONIK

- Represented worldwide with 25 branch offices and many international distributors
- Over 2000 employees
- 2 million products in stock so you don't have to wait
- 65,000 different products

THE EMPARRO SYSTEM – A PERFECT MATCH

- Filter, power supply unit and buffer module
- Cutting edge technology
- Consistent approach
- Uniform design
- Optimum EMC safety
- Maximum system availability

| THE CORE OF YOUR CONTROL CABINET

The switch mode power supply is the core of your control cabinet – and Murrelektronik's regulated power supply units are the perfect regulators.

Our focus is to provide constant, constant output voltages for your system – independent of how much input voltage fluctuates. We provide you with the most reliable solutions for almost any application, for example: in the machine tool building industry, in the processing industry or in the shipbuilding industry. Our wide product range of power supply units designed with cutting edge technology make sure that you have the best product for your requirements.

Our certified, in-house test center ensures that our switch mode power supplies are well-engineered and operate perfectly. Our power supply units have many approvals and feature a wide input voltage range, which makes them suitable for global applications. We are represented all over the world with branch offices and distributors: You can buy our products in over 40 countries.



MURRELEKTRONIK'S POWER SUPPLY SYSTEMS

- Comprehensive product range with switch mode power supplies, transformers, buffer modules, redundancy modules, load circuit monitoring and much more
- High flexibility with the right model for your needs
- 100% compatible
- For global applications
- Our system specialists will help you create your perfect power supply system
- Durable units ensures system availability

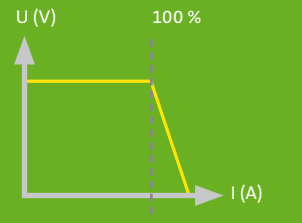
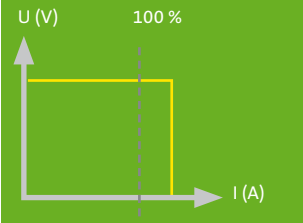
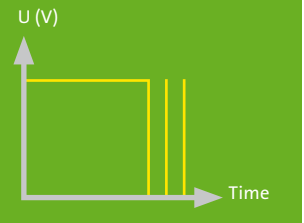
| Functions | PICCO SK | PICCO FK | ECO Power | ECO Rail | MCS-B | Emparro 1~ | Emparro 3~ | Emparro67 |
|--|----------|----------|----------------|----------------|----------------|------------|------------|-----------|
| Screw terminal | x | | x | x | x | | | |
| Spring clamp terminal | | x | | | | x | x | |
| Pluggable terminal | | x | | x | x ¹ | | | |
| Connector | | | | | | | | x |
| DIN rail mounting | x | x | | x | x | x | x | |
| Full power up to 40 °C | x | x | x | x | x | x | x | x |
| Full power up to 60 °C | | | | | x | x | x | x |
| 20% more power up to 45 °C | | | | | | x | x | |
| 50% Power boost | | | | | | x | x | x |
| Derating up to 55 °C | | | x | x | | | | |
| Derating up to 70 °C | x | x | | | x | x | x | x |
| Automatic wide voltage input 90...265 V | x | x | x ¹ | x ¹ | x | x | | x |
| Automatic wide voltage input 360...520 V | | | | | | | x | |
| Parallel connection | x | x | | | x | x | x | |
| Series connection | x | x | x | x | x | x | x | x |
| AC and DC input | x | x | | | x ¹ | x | x | x |
| PFC | x | x | | | | x | x | x |
| UL | x | x | | x | x | x | x | |
| GL | | | | | x ¹ | x | x | |
| Alarm contact | | | | | | x | x | |

¹ some models

| Product Selection | Output | | | | | | | |
|--------------------|--------|------------|-------|-------|-------|-------|-------|--------------------|
| Single-phase input | 5 V | 3 A | | | | 85371 | | |
| | 12 V | 0,85...1 A | 87012 | 87112 | | 85372 | | |
| | | 2,5 A | 87014 | 87114 | | 85373 | | |
| | | 4,5...5 A | 87016 | 87116 | | | | |
| | | 6 A | 87018 | 87118 | | | | |
| | 24 V | 10 A | | | | | 85434 | |
| | | 0,6 A | 87011 | 87111 | 85150 | 85160 | | |
| | | 1,3 A | 87013 | 87113 | 85151 | 85301 | 85161 | |
| | | 2,5 A | 87015 | 87115 | 85152 | 85302 | 85162 | |
| | | 4,0 A | | | | | | 9000-11112-1962020 |
| | | 4,2...5 A | 87017 | 87117 | 85153 | 85303 | 85163 | 85440 |
| | | 7,5 A | | | 85154 | | 85164 | |
| | | 8 A | | | | | | 9000-11112-2062020 |
| | 10 A | | | 85155 | 85305 | 85165 | 85441 | 85676 |
| | | 20 A | | | 85307 | | 85442 | |
| | 30,5 V | 4 A | | | | 85381 | | |
| | 48 V | | | | | 85382 | | |
| 2,5 A | | | | | | 85437 | | |
| 5 A | | | | | | 85438 | | |
| | 10 A | | | | | 85439 | | |
| 3-phase input | 24 V | 5 A | | | | | 85690 | |
| | | 10 A | | | | | 85691 | |
| | | 20 A | | | | | 85692 | |
| | | 40 A | | | | | 85693 | |
| | 30,5 V | 4 A | | | | | 85383 | |

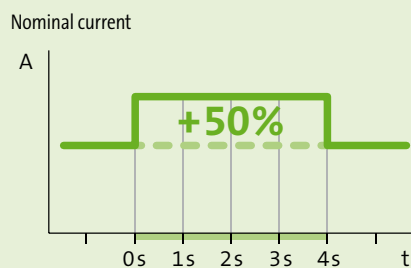
CONTINUAL SHORT CIRCUIT AND OVERLOAD PROTECTION

Switch mode power supplies have different power-down characteristics that make sure the unit's electronics are protected when overloads or short circuits occur. Murrelektronik's switch mode power supply module features the following characteristics:

| POWER LIMITER | CURRENT LIMITER | HICCUP MODE/ AUTO RESTART |
|---|---|--|
|  |  |  |
| <p>PICCO</p> <ul style="list-style-type: none"> Starts large loads reliably Limited function in case of error not suitable for connection to MICO | <p>EMPARRO, ECO RAIL* AND ECO POWER*</p> <ul style="list-style-type: none"> Starts large loads reliably Limited function in case of error PowerBoost function | <p>MCS-B, ECO RAIL* AND ECO POWER*</p> <ul style="list-style-type: none"> Powers down in case of error Restarts automatically when error is fixed |

* Diagram applies to models several

POWER BOOST FUNCTION



The Current Limiter and Power Limiter functions are excellent for starting capacitive loads. Units with these features do not simply switch off, but they reduce the voltage or provide a higher inrush current with the PowerBoost function.

Before changing over into this protected mode, many of Murrelektronik's power supplies provide an over current four times larger than the nominal current for a few milliseconds. This is another great advantage.

EMPARRO® 1~



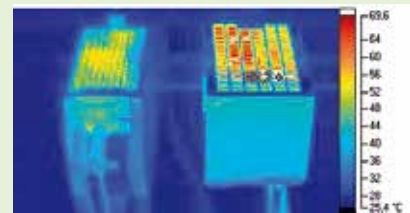
PREMIUM POWER

It is our goal to develop new, efficient power supply units. Each percentage of efficiency saves you money and significantly increases machine availability. The degree of efficiency directly influences size, service life and temperature sensitivity of a power supply. A rough estimate is that if a device's temperature is increased by 10 °C/50 °F, the life of the power supply is reduced by half!

An example, your 24 V/10 A unit has an efficiency of 85 %, which corresponds to power loss of 15 % or 26 W. With an efficiency of 95 %, the power loss is instantly reduced by a third: 12 W.

The higher the efficiency the lower the heat generation and the smaller the unit can be.

EMPARRO VS. STANDARD POWER SUPPLY



Single phase operation, primary switched

– Short circuit and overload protected (Power limiter)

– Power Boost 150 %



Emparro 120 W



Emparro 240 W



Emparro 480 W



| Ordering data | Current | Art.-No. | Current | Art.-No. | Current | Art.-No. |
|------------------------------|--|--------------|-------------------|--------------|-------------------|--------------|
| 12 V DC | 10 A | 85434 | – | – | – | – |
| 24 V DC | 5 A | 85440 | 10 A | 85441 | 20 A | 85442 |
| 48 V DC | 2,5 A | 85437 | 5 A | 85438 | 10 A | 85439 |
| Input | | | | | | |
| Input voltage | 85...265 V AC / 90...250 V DC | | | | | |
| Input current | 0,55 A (240 V A) | | 1,1 A (240 V AC) | | 2,2 A (240 V AC) | |
| inrush current after 1 ms | < 13 A | | | | | |
| Output | | | | | | |
| Output voltage | adjustable 12...15 V DC, 24...28 V DC, 48...56 V DC | | | | | |
| Power Boost | 150 % 4 seconds | | | | | |
| Efficiency | up to 95 % | | | | | |
| Protection | short-circuit and overload protected (output), Current Limiter | | | | | |
| General data | | | | | | |
| MTBF | > 500.000 h | | | | | |
| Mains failure bridging | > 20 ms (230 V AC) | | | | | |
| Status display | LED green/red | | | | | |
| Standards | EN 60950-1, EN 61204-3, EN 55011 B, EN 61000-3-2 | | | | | |
| Temperature range | -40...+60 °C without derating (storage temperature -40...+85 °C) | | | | | |
| Mounting method | DIN-rail mounting TH35 (EN 60715), optional with screw mounting | | | | | |
| Dimensions (H x W x D) | 125 x 50 x 137 mm | | 125 x 65 x 137 mm | | 125 x 85 x 137 mm | |
| Other | Relay alarm contact for short-circuit, overload and over-temperature | | | | | |
| Provals | UL Listed, UL recognized, GL | | | | | |
| Shock acc. to IEC 60068-2-27 | 30g | | 30g | | 30g | |

EMPARRO® 3~

PREMIUM POWER

- **Maximum reliability**
 - MTBF of 1,000,000 hours
 - Integrated gas discharge valve protects from interference pulses
 - Up to 95 % efficiency rating
- **Optimum performance**
 - Permanently overload protected – up to 20 %
 - Power and hyper boost functions for starting high loads
- **Space saving**



Two-/three-phase, primary switched

– short circuit and overload protected (Current limiter)

– Power Boost 150 %

– Parallel connection



| | Emparro 120 W | | Emparro 240 W | | Emparro 480 W | | Emparro 960 W | |
|------------------------------|---|----------|-------------------|----------|-------------------|----------|--------------------|--------------------------------------|
| | Current | Art.-No. | Current | Art.-No. | Current | Art.-No. | Current | Art.-No. |
| 24 V DC | 5 A | 85690 | 10 A | 85691 | 20 A | 85692 | 40 A | 85693 |
| Input | | | | | | | | |
| Input voltage | 3x324 V AC...572 V AC/ 450 V DC...745 V DC | | | | | | | |
| Input current | < 9,5 A | | < 9 A | | < 13 A | | < 14 A | |
| Inrush current after 1 ms | < 14 A | | | | | | | |
| Output | | | | | | | | |
| Output voltage | adjustable 24...28V DC | | | | | | | |
| Power Boost | 150 % for 5 seconds | | | | | | | |
| Efficiency | up to 95 % | | | | | | | |
| Protection | short-circuit and overload protected (output), Current limiter | | | | | | | |
| General data | | | | | | | | |
| MTBF | > 1.000.000 h | | | | > 950.000 h | | > 775.000 h | |
| Mains failure bridging | > 25 ms bei 400 V AC | | | | > 20 ms | | | |
| Status display | LED green/red | | | | | | | |
| Standards | EN 60950-1, EN 61204-3, EN 55011B, EN 61000-3-2 | | | | | | | |
| Temperature range | -40...+60 °C without derating /60...70 °C derating (storage temperature -40 ... +85 °C) | | | | | | | |
| Mounting method | DIN-rail mounting TH35 (EN 60715), optional with screw mounting (Art 89519) | | | | | | | |
| Dimensions (H x W x D) | 50 x 143 x 143 mm | | 65 x 143 x 143 mm | | 65 x 143 x 167 mm | | 109 x 138 x 182 mm | |
| Other | Relay alarm contact for short-circuit, overload and over-temperature | | | | | | | add. alarm contact prev. diagnostics |
| Approvals | UL listed, UL recognized | | | | | | | |
| Shock acc. to IEC 60068-2-27 | 50 g | | | | 30 g | | 30 g* | |

* Vibration up to 23 g with screw mounting plate

| AS-INTERFACE



THE LATEST EMPARRO® VERSION HAS BEEN DESIGNED FOR USE IN AS INTERFACE APPLICATIONS WITH AN OPERATING VOLTAGE OF 30.5 V.

The Emparro® switch mode power supply for AS interface applications rounds off this portfolio. The Emparro® 3-phase switching power supply for AS interface applications offers the same high efficiency as all the other Emparro® switching power supplies. The use of three phases brings about a considerable simplification as the structure becomes more transparent. Three-phase switch mode power supplies are thus very attractive for AS interface applications and Emparro® is the clear first choice.

An advantage in the installation: The Emparro® 3-phase for AS interface applications is extremely compact and only occupies 50 mm on the DIN rail. Push-in connection terminals make connecting cable installation tool-free. No separate decoupling component is required since the Emparro® 3-phase switching power supplies for AS interface applications separate data from power.

**Single phase operation,
primary switched**

– Short circuit and
overload protected
(Current-Limiter)

– Power Boost 150 %



Emparro
120 W



| Ordering data | Current | Art.-No. |
|------------------------------|--|--------------|
| 30...32 V DC | 4 A | 85383 |
| Input | | |
| Input voltage | 3 × 324...572 V AC / 450...745 V DC | |
| Input current | 0.45 A (3 × 360 V AC) | |
| inrush current after 1 ms | max. 9.5 A | |
| Output | | |
| Output voltage | 30.5 V DC (SELV), ±1%; 30...32 V adjustable | |
| Power Boost | I _{out} N × 150% (min. 5 s) | |
| Efficiency | up to 92,5% | |
| Protection | short circuit and overload protected, permanently by 20% (to 45 °C) | |
| Output filter | filter acc. to AS-Interface specification | |
| General data | | |
| MTBF | > 1.000.000 h (40°) | |
| Mains failure bridging | min. 20 ms (3 × 360 V AC); 5 A (24 V DC) | |
| Status display | LED green/red | |
| Standards | EN 60950-1, EN 61204-3, EN 61000-3-2, SEMI F47 | |
| Temperature range | -40...+70 °C, ...+70 °C derating (storage temperature -40...+85 °C) | |
| Mounting method | DIN-rail mounting TH35 (EN 60715) | |
| Dimensions (H x W x D) | 143×50×143 mm | |
| Other | Relay alarm contact for short-circuit, overload and over-temperature | |
| Provals | CE, cULus, cURus, ASinterface | |
| Shock acc. to IEC 60068-2-27 | 50g | |

MCS-A

Single phase operation,
primary switched

– Hiccup Mode



MCS-A 4

Strom 4 A / 122 W



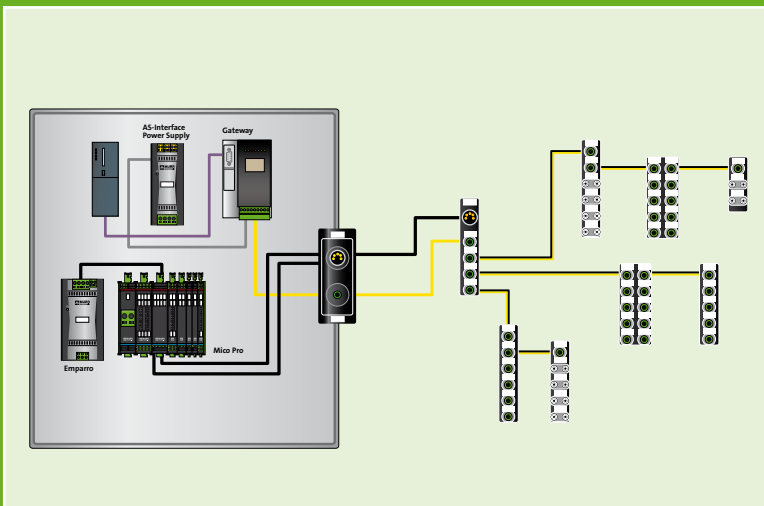
MCS-A 4 EFD

Strom 4 A / 122 W



| Ordering data | Art.-No. | Art.-No. |
|----------------------------|--|----------|
| 30,5 V DC | 85381 | 85382 |
| Input | | |
| Input voltage | 95...265 V AC | |
| Nominal voltage | Current 4 A / 122 W | |
| Input current | 2,1 A (110 V AC); 0,93 A (230 V AC) | |
| inrush current | max. 30 A T | |
| Output | | |
| Output voltage | 30,5 V DC (SELV) ± 2 % | |
| Nominal output current | 4,0 A (+40 °C); 3,4 A (+55 °C) | |
| Efficiency | 83 % (110 V AC); 85 % (240 V AC) | |
| Protection | short circuit and overload protected (hiccup mode) | |
| Output filter | filter acc. to AS-Interface specification | |
| Parallel/series connection | no/no | |
| General data | | |
| Standards | EN 60950-1, EN 61204-3, EN 55022 B | |
| Temperature range | -10...+40 °C, up to +55 °C derating (storage temperature -25...+85 °C) | |
| Mounting method | DIN rail mounting TH35 (EN 60715) | |
| AS-Interface | unit complies to AS-Interface specification for power supplies (PELV) | |
| Dimensions (H x W x D) | 115 x 54 x 147 mm | |
| Other | – with earth leakage protection | |

MA SI STANDARD POWER 30.5 V – FOR LARGE SYSTEMS



Utilize the full power of sensor-actuator interface with MASI Standard-Power 30.5 V.

- Up to 62 slaves per gateway
- System length of up to 100m (up to 500m with repeater)

You will be impressed by Murrelektronik's decentralized product portfolio for AS Interface installations.



EMPARRO67



POWER SUPPLY DIRECTLY NEXT TO THE LOAD

Emparro67 power supply units are specially designed for applications outside the control cabinet. They withstand extreme environmental conditions and can be installed directly in the field, next to the loads.

Power loss is reduced to a minimum, because the voltage is converted from 230 V AC to 24 V DC directly at the load. Therefore, the energy costs are reduced and smaller cabinets can be used.

DECENTRALIZED INSTALLATION:

- Low power loss
- High efficiency of up to 94.2%
- Active PFC
- Ambient temperature up to 85 °C
- Extremely rugged, fully potted IP67 housing
- Contact-safe installation even under full load
- Very flat, compact design

Single phase,
primary switched

– short circuit and
overload protected
(current limiter)

– Power Boost 150 %



Emparro67

96 W



Emparro67

192 W



| Ordering data | Current | Art.-No. | Current | Art.-No. |
|---------------------------|---|--------------------|--------------------|--------------------|
| | 4 A | 9000-11112-1962020 | 8 A | 9000-11112-2062020 |
| Input | | | | |
| Input voltage | 90...265 V AC/V DC | | | |
| Input current | 0,5 A (240 V AC) | | 0,9 A (240 V AC) | |
| inrush current after 1 ms | < 9 A | | < 7 A | |
| Output | | | | |
| Output voltage | 24,1 V DC ± 2% | | | |
| Power Boost | 150 % 4 seconds | | | |
| Efficiency | up to 92,3% | | up to 94,2% | |
| Protection | short-circuit and overload protected (output), Current Limiter | | | |
| General data | | | | |
| Mains failure bridging | > 45 ms at 230 V AC | | > 35 ms (230 V AC) | |
| Standards | EN 60950-1, EN 61204-3, EN 55011 B, EN 61000-3-2 | | | |
| Temperature range | –25...+60 °C (storage temperature –40...+85 °C)/with derating up to 85 °C | | | |
| Mounting method | Screw mounting | | | |
| Dimensions (H × W × D) | 140 × 109 × 51 mm | | 175 × 109 × 51 mm | |

EMPARRO67 HYBRID

A NEW DIMENSION OF DECENTRALIZED POWER SUPPLY

The innovative Emparro67 Hybrid switch mode power supply unit is an all-rounder with many powerful features:

It not only relocates power supply from the control cabinet to the industrial field, but it also monitors currents using two integrated channels for 24 VDC load circuit monitoring, thus ensuring high operational reliability. An IO-Link interface permits extensive and transparent communication.

- Decentralized power supply
- IO-Link interface provides extensive diagnostics
- Integrated electronic monitoring system



Single phase,
primary switched

– short circuit and
overload protected
(current limiter)



Emparro67 Hybrid
240 W



| Ordering data | Current | Art.-No. |
|---------------------------|---|----------|
| | 10 A | 85676 |
| Input | | |
| Input voltage | 90...265 V AC/V DC | |
| Input current | 1,1 A bei 230 V AC | |
| inrush current after 1 ms | < 7 A | |
| PFC | Active | |
| Connection | 7/8" 3-pin, male | |
| Output | | |
| Output voltage | 24,1 V DC \pm 2% | |
| MICO outputs | 2 outputs, 2-pole switching | |
| Output current | max. 8 A / channel, max. 10 A total | |
| Efficiency | up to 93,8% | |
| Switch-on capacitance | 20,000 μ F / channel | |
| Anschluss | 7/8" 5-pin, female | |
| Protection | short-circuit and overload protected (output), Current Limiter | |
| IO-Link | | |
| Parameter | ON/OFF; setting tripping current, setting output voltage, and many more | |
| Diagnostics | Output current, alarm, life cycle, and many more | |
| Connection | M12, male | |
| General data | | |
| Mains failure bridging | > 20 ms at 230 V AC | |
| Standards | EN 60950-1, EN 61204-3, EN 55022, EN 61000-3-2 | |
| MTBF | 430.000 h | |
| Temperature range | -25...+60 °C (storage temperature -40...+85 °C) | |
| Mounting method | Screw mounting | |
| Dimensions (H x W x D) | 212 x 109 x 51 mm | |

MCS-B

Single phase operation, primary switched

– Hiccup Mode

Approval:



MCS-B

Current 0,6 A / 15 W



MCS-B

Current 1,3 A / 30 W



MCS-B

Current 2,5 A / 60 W



MCS-B

Current 3 A / 15 W



| Ordering data | Art.-No. | | Art.-No. | | Art.-No. | |
|-----------------------------|--|--------------------------------------|--------------------|--------------------------------------|---|------------------------------------|
| 5 V DC | – | | – | | – | |
| 24 V DC | 85160 | | 85161 | | 85162 | |
| Input | | | | | | |
| Nominal voltage | 90...265 V AC; 110...300 V DC | | | 95...265 V AC; 110...300 V DC | | |
| Input current | 0,3 A (100 V AC); 0,2 A (230 V AC) | 0,65 A (100 V AC); 0,37 A (230 V AC) | | 1,04 A (110 V AC); 0,63 A (230 V AC) | | 0,3 A (115 V AC); 0,2 A (230 V AC) |
| inrush current | max. 20 A | | | max. 15 A | | |
| Primary fusing | max. 10 A | | | max. 20 A | | |
| Output | | | | | | |
| Output voltage | 24 V DC (SELV) ± 1 %, 22,5...28 V DC einstellbar | | | | 5 V DC (SELV) ± 1 %, 4,2...6 V einstellb. | |
| Nominal output current | 0,6 A (+55 °C)...0,4 A (+70 °C) | 1,3 A (+40 °C)...0,7 A (+70 °C) | | 2,5 A (+40 °C)...1,5 A (+70 °C) | | 3 A (+40 °C); 2,5 A (+55 °C) |
| Efficiency | 81 % (100 V AC); 83 % (230 V AC) | 82 % | | 85 % (110 V AC); 87 % (230 V AC) | | 80 % |
| Protection | short circuit and overload protected (hiccup mode) | | | | | |
| Parallel usage/serial usage | max. 5 units/max. 2 units | | | | no/yes max. 2 units | |
| General data | | | | | | |
| Standards | EN 60950-1, EN 61204-3, EN 55022 B, EN 61000-3-2 | | | | | |
| Temperature range | 0...+55 °C, up to +70 °C derating | | | | 0...+40 °C, up to 55 °C derating | |
| Mounting method | DIN-rail mounting TH35 (EN 60715) | | | | | |
| Dimensions (H x W x D) | 76 x 38 x 80 mm | | 76 x 38 x 100,5 mm | | 76 x 38 x 80 mm | |

Single phase operation, primary switched

– Hiccup Mode

MCS-B

Current 1 A / 12 W



MCS-B

Current 2,5 A / 30 W



| Ordering data | Art.-No. | | Art.-No. | | |
|----------------------------|--|--|--------------------------------|--------------------------------------|--|
| 12 V DC | 85372 | | 85373 | | |
| Input | | | | | |
| Nominal voltage | 90...265 V AC; 110...300 V DC | | | 95...265 V AC; 110...300 V DC | |
| Input current | 0,33 A (100 V AC); 0,16 A (230 V AC) | | | 0,56 A (115 V AC); 0,31 A (230 V AC) | |
| inrush current | max. 20 A | | | | |
| Output | | | | | |
| Output voltage | 12 V DC (SELV) ± 1 %, 12...15 V adjustable | | | | |
| Nominal output current | 1 A (+50 °C); 0,8 A (+60 °C) | | 2,5 A (+40 °C); 2,1 A (+55 °C) | | |
| Efficiency | 77 % | | 82 % | | |
| Protection | short circuit and overload protected (hiccup mode) | | | | |
| Output filter | – | | | | |
| Parallel/series connection | no/yes, max. 2 units | | | | |
| General data | | | | | |
| Standards | EN 60950-1, EN 61204-3, EN 55022 B, EN 61000-3-2 | | | | |
| Temperature range | 0...+50 °C | | 0...+40 °C, bis 55 °C derating | | |
| Mounting method | DIN rail mounting TH35 (EN 60715) | | | | |
| AS-Interface | – | | | | |
| Dimensions (H x W x D) | 76 x 38 x 80 mm | | | | |
| Other | – | | | | |

| ECO RAIL

ECO-RAIL POWER SUPPLIES – FLEXIBLE MOUNTING OPTIONS

Power supplies of the Eco-Rail series can be mounted on a DIN rail – in a particularly flexible manner. Two different assembly methods allow back mounting or side mounting, depending on the space available. Power supplies of the Eco-Rail series have UL approval and are therefore suitable for worldwide use. Eco-Rail units are available in models from 1.3 to 10 A.



ECO-RAIL HIGHLIGHTS

- DIN rail mounting
- Optional keyhole mounting
- Small space requirements due to slim design
- Output voltage adjustable from 23 to 28 V
- Pluggable screw terminals (IP20)
- Full power with ambient temperatures up to 40° C (105° F)
- Derating up to temperatures of 55° C (130° F)
- Allow operation in series connection
- Easily adjustable wide voltage input
- UL approval for worldwide use
- Metal housing

| ECO POWER

ECO-POWER POWER SUPPLIES – CONVINCING EFFICIENCY

The power supplies of the Eco-Power series meet all basic requirements of power supplies – and their efficiency is convincing. They feature a slim and compact design. The cooling is based on convection. This makes the power supplies from the Eco-Power series particularly suitable for applications in compact installations and customers' machines. Eco-Power units are available in models from 0.6 to 10 A.



ECO-POWER HIGHLIGHTS

- Solid perforated housing allows optimum heat dissipation
- Output voltage adjustable from 21.6 to 26.4 V
- Cooling by convection
- Full power with ambient temperatures up to 40° C (105° F)
- Derating up to temperatures of 55° C (130° F)
- Allow operation in series connection
- Flat and compact design
- Easily adjustable wide voltage input
- Screw terminals (IP00) with touch protection

ECO RAIL

Single phase operation, primary switched

– pluggable screw
terminals

Approval:



Eco Rail

Current 1,3 A / 30 W



Eco Rail

Current 2,5 A / 60 W



| Ordering data | Art.-No. | Art.-No. |
|----------------------------|--|------------------------------------|
| 24 V DC | 85301 | 85302 |
| Input | | |
| Nominal voltage | 90...264 V AC | |
| Input current | 0,7 A (115 V AC); 0,4 A (230 V AC) | 1,1 A (115 V AC); 0,6 A (230 V AC) |
| Primary fusing | max. 20 A | |
| Output | | |
| Output voltage | 24 V DC (SELV) $\pm 1\%$; 23...28 V DC adjustable | |
| Nominal output current | 1,3 A (+40 °C); 1,0 A (+55 °C) | 2,5 A (+40 °C); 2,0 A (+50 °C) |
| Efficiency | 84 % (115 V AC); 84 % (230 V AC) | 85 % (115 V AC); 87 % (230 V AC) |
| Protection | short circuit and overload protected (hiccup mode) | |
| Parallel/series connection | no/yes, max. 2 units | |
| General data | | |
| Standards | EN 60950-1, EN 61204-3, EN 55022 B, EN 61000-3-2 | |
| Temperature range | 0...+40 °C, up to 55 °C derating (storage temperature -20...+85 °C) | |
| Mounting method | DIN-rail mounting (TH 35) acc. to EN 60715 | |
| Dimensions (H x W x D) | 125 x 50 x 70 mm | 125 x 50 x 80 mm |
| Connection | pluggable screw terminals (included) or pluggable spring clamp terminal Art. No. 89517 | |

Einphasenbetrieb, primärgestaktet

– steckbare Schraub-
klemmen

Zulassung:



Eco Rail

Current 5 A / 120 W



Eco Rail

Current 10 A / 240 W



Eco Rail

Current 20 A / 240 W



| Ordering data | Art. No. | Art. No. | Art. No. |
|----------------------------|--|------------------------------------|----------------------------------|
| 24 V DC | 85303 | 85305 | 85307 |
| Input | | | |
| Nominal voltage | 90...132 V AC, 173...264 V AC | | |
| Input current | 2,3 A (115 V AC); 1,2 A (230 V AC) | 4 A (115 V AC); 2,4 A (230 V AC) | 9 A (100 V AC); 4,5 A (200 V AC) |
| Primary fusing | max. 20 A | | |
| Output | | | |
| Output voltage | 24 V DC (SELV) $\pm 1\%$; 23...28 V DC adjustable | | |
| Nominal output current | 5 A (+40 °C); 4 A (+55 °C) | 10 A (+40 °C); 7,5 A (+55 °C) | 20 A (+40 °C); 16 A (+55 °C) |
| Efficiency | 84 % (115 V AC); 86 % (230 V AC) | 87 % (115 V AC); 88 % (230 V AC) | 87 % |
| Protection | short circuit and overload protected (current limiter) | | |
| Parallel/series connection | no/yes, max. 2 units | | |
| General data | | | |
| Standards | EN 60950-1, EN 61204-3, EN 55022 B, EN 61000-3-2 | EN 60950-1, EN 61204-3, EN 55022 B | – |
| Temperature range | 0...+40 °C, up to 55 °C derating (storage temperature -20...+85 °C) | | |
| Mounting method | DIN-rail mounting (TH 35) acc. to EN 60715 | | |
| Dimensions (H x W x D) | 125 x 50 x 125 mm | 125 x 72 x 125 mm | 125 x 105 x 127 mm |
| Connection | pluggable screw terminals (included) or pluggable spring clamp terminal Art. No. 89517 | | |

ECO POWER

Single phase operation, primary switched

Eco Power

Current 0,6 A / 15 W



Eco Power

Current 1,3 A / 30 W



Eco Power

Current 2,5 A / 60 W



Eco Power

Current 5,0 A / 120 W



| Ordering data | Art. No. | Art. No. | Art. No. | Art. No. |
|----------------------------|--|------------------------------------|------------------------------------|------------------------------------|
| 24 V DC | 85150 | 85151 | 85152 | 85153 |
| Input | | | | |
| Nominal voltage | 90...264 V AC | | | |
| Input current | 0.3 A (115 V AC); 0.2 A (230 V AC) | 0.7 A (115 V AC); 0.4 A (230 V AC) | 1.2 A (115 V AC); 0.5 A (230 V AC) | 2.4 A (115 V AC); 1.0 A (230 V AC) |
| Primary fusing | max. 20 A | | | |
| Output | | | | |
| Output voltage | 24 V DC (SELV) $\pm 1\%$; 21,6...26.4 V DC adjustable | | | |
| Nominal output current | 0.6 A (+40 °C); 0.5 A (+50 °C) | 1.3 A (+40 °C); 1.04 A (+50 °C) | 2.5 A (+40 °C); 2.0 A (+50 °C) | 5.0 A (+40 °C); 4.0 A (+50 °C) |
| Efficiency | 85 % (115 V AC); 87 % (230 V AC) | 85 % (115 V AC); 85 % (230 V AC) | 85 % (115 V AC); 87 % (230 V AC) | 86 % (115 V AC); 87 % (230 V AC) |
| Protection | short circuit and overload protected (hiccup mode) | | | |
| Parallel/series connection | no/yes, max. 2 units | | | |
| General data | | | | |
| Standards | EN 60950-1, EN 61204-3, EN 55011 B | | | |
| Temperature range | 0...+40 °C, up to +50 °C derating (storage temperature -20...+85 °C) | | | |
| Mounting method | screw fixing, M3 | | | |
| Dimensions (H x W x D) | 36 x 105 x 77 mm | 40 x 135 x 98 mm | 41 x 164 x 98 mm | |

Single phase operation, primary switched

Eco Power

Current 7,5 A / 180 W



Eco Power

Current 10 A / 240 W



| Ordering data | Art. No. | Art. No. |
|----------------------------|--|------------------------------------|
| 24 V DC | 85154 | 85155 |
| Input | | |
| Nominal voltage | 90...132 V AC, 180...264 V AC | |
| Input current | 3.4 A (115 V AC); 1.9 A (230 V AC) | 4.6 A (115 V AC); 2.8 A (230 V AC) |
| Primary fusing | max. 20 A | max. 25 A |
| Output | | |
| Output voltage | 24 V DC (SELV) $\pm 1\%$; 21,6...26.4 V DC adjustable | |
| Nominal output current | 7.5 A (+40 °C); 6.0 A (+50 °C) | 10 A (+40 °C); 8.0 A (+50 °C) |
| Efficiency | 85 % (115 V AC); 86 % (230 V AC) | 84 % (115 V AC); 85 % (230 V AC) |
| Protection | short circuit and overload protected (current limiter) | |
| Parallel/series connection | no/yes, max. 2 units | |
| General data | | |
| Standards | EN 60950-1, EN 61204-3, EN 55011 B | |
| Temperature range | 0...+40 °C, up to +50 °C derating (storage temperature -20...+85 °C) | |
| Mounting method | screw fixing, M3 | screw fixing, M4 |
| Dimensions (H x W x D) | 50 x 205 x 100 mm | 50 x 230 x 115 mm |

PICCO

Single phase operation, primaryswitched

- Power Limiter
- 24...28 V DC

PICCO

Current 0,42 A / 10 W



PICCO

Current 1,25 A / 30 W



PICCO

Current 2,5 A / 60 W



PICCO

Current 4,2 A / 100 W



| Ordering data | Art. No. | Art. No. | Art. No. | Art. No. |
|---------------------------------|--|--------------------------------------|-------------------------------------|------------------------------------|
| Screw terminal | 87011 | 87013 | 87015 | 87017 |
| Pluggable spring clamp terminal | 87111 | 87113 | 87115 | 87117 |
| Input | | | | |
| Nominal voltage | 100...240 V AC; 140...340 V DC | | | |
| Input current | 0.2 A (110 V AC); 0.12 A (230 V AC) | 0.55 A (110 V AC); 0.35 A (230 V AC) | 1.1 A (110 V AC); 0.63 A (230 V AC) | 1.7 A (110 V AC); 1.0 A (230 V AC) |
| inrush current | max. 30 A | max. 40 A | max. 60 A | max. 60 A |
| Output | | | | |
| Output voltage | 24 V DC, SELV ± 1 %; 24...28 V adjustable | | | |
| Nominal output current | 0.42 A (+50 °C)...0.042 A (+70) | 1.25 A (+50 °C)...0.125 A (+70) | 2.5 A (+50 °C)...0.25 A (+70) | 4.2 A (+50 °C)...0.42 A (+70) |
| Efficiency | 79 % (110 V AC); 80 % (230 V AC) | 83 % (110 V AC); 84 % (230 V AC) | 85 % (110 V AC); 86 % (230 V AC) | |
| Protection | short circuit and overload protected (power limiter) | | | |
| General data | | | | |
| Standards | EN 55022B, EN 61000-3-2, EN 60950-1 | | | |
| Temperature range | -25...+50 °C; up to +70 °C derating | | | |
| Dimensions (H x W x D) | 91 x 23 x 57 mm | 91 x 53 x 57 mm | 91 x 71 x 57 mm | 91 x 90 x 57 mm |

Single phase operation, primaryswitched

- Power Limiter
- 12...15 V DC

PICCO

Current 0,85 A / 10 W



PICCO

Current 2,5 A / 30 W



PICCO

Current 4,5 A / 60 W



PICCO

Current 6 A / 72 W



| Ordering data | Art. No. | Art. No. | Art. No. | Art. No. |
|---------------------------------|--|--------------------------------------|-------------------------------------|-------------------------------------|
| Screw terminal | 87012 | 87014 | 87016 | 87018 |
| Pluggable spring clamp terminal | 87112 | 87114 | 87116 | 87118 |
| Input | | | | |
| Nominal voltage | 100...240 V AC; 140...340 V DC | | | |
| Input current | 0.2 A (110 V AC); 0.12 A (230 V AC) | 0.55 A (110 V AC); 0.35 A (230 V AC) | 1.0 A (110 V AC); 0.58 A (230 V AC) | 1.3 A (110 V AC); 0.75 A (230 V AC) |
| inrush current | max. 30 A | max. 40 A | max. 60 A | max. 60 A |
| Output | | | | |
| Output voltage | 12 V DC SELV, ± 1 %; 12...15 V adjustable | | | |
| Nominal output current | 0.85 A (+50 °C)...0.085 A (+70) | 2.5 A (+50 °C)...0.25 A (+70) | 4.5 A (+50 °C)...0.45 A (+70) | 6 A (+50 °C)...0.6 A (+70) |
| Efficiency | 79 % (110 V AC); 80 % (230 V AC) | 83 % (110 V AC); 84 % (230 V AC) | 85 % (110 V AC); 86 % (230 V AC) | |
| Protection | short circuit and overload protected (power limiter) | | | |
| General data | | | | |
| Standards | EN 55022B, EN 61000-3-2, EN 60950-1 | | | |
| Temperature range | -25...+50 °C; bis +70 °C derating | | | |
| Dimensions (H x W x D) | 91 x 23 x 57 mm | 91 x 53 x 57 mm | 91 x 71 x 57 mm | 91 x 90 x 57 mm |

MICO — LOAD CIRCUIT MONITORING

SAFE AND WELL DISTRIBUTED

Combine your power supplies with MICO, the intelligent power distribution system.

MICO is the intelligent power distribution module from Murrelektronik for 24 VDC and 48 VDC. It monitors currents, indicates when approaching the maximum load and ensures machine availability.

Our suggestion: Combine your power supplies with MICO. You can choose between **Mico Pro**® for modular requirements, **MICO+** with channels that can be switched off and a digital signal with a 90 % warning, **MICO CLASSIC** with adjustable current ranges, **MICO BASIC** with preset nominal currents and **MICO FUSE** with sockets for glass tube fuses.

MICO modules with NEC Class 2 approval are available to design load circuits with limited energy, in a simple and cost effective way.



| MICO+ 24 V | Description | Adjustable current ranges | Art. No. |
|------------|--|--|--------------------|
| | MICO+ 4.4, 4 channels** | 1, 2, 3, 4 A | 9000-41084-0100400 |
| | MICO+ 4.6, 4 channels | 1, 2, 4, 6 A | 9000-41084-0100600 |
| | MICO+ 4.10, 4 channels | 4, 6, 8, 10 A | 9000-41084-0401000 |
| | MICO Classic 2.4, 2 channels** | 1, 2, 3, 4 A | 9000-41042-0100400 |
| | MICO Classic 2.6, 2 channels | 1, 2, 4, 6 A | 9000-41042-0100600 |
| | MICO Classic 2.10, 2 channels | 4, 6, 8, 10 A | 9000-41042-0401000 |
| | MICO Classic 4.4, 4 channels** | 1, 2, 3, 4 A | 9000-41034-0100400 |
| | MICO Classic 4.6, 4 channels* | 1, 2, 4, 6 A | 9000-41034-0100600 |
| | MICO Classic 4.10, 4 channels* | 4, 6, 8, 10 A | 9000-41034-0401000 |
| | MICO Classic 4.4.10 Actuator-Sensor 4 channels | 2x 1, 2, 3, 4, 2x 4, 6, 8, 10 A | 9000-41034-0101000 |
| | MICO Classic 4.10 Speed-Start 4 channels | 4, 6, 8, 10 A | 9000-41034-0401005 |
| | MICO Basic 4.2, 4 channels** | 2 A | 9000-41064-0200000 |
| | MICO Basic 4.4, 4 channels** | 4 A | 9000-41064-0400000 |
| | MICO Basic 4.6, 4 channels* | 6 A | 9000-41064-0600000 |
| | MICO Basic 8.2, 8 channels** | 2 A | 9000-41068-0200000 |
| | MICO Basic 8.4, 8 channels** | 4 A | 9000-41068-0400000 |
| | MICO Basic 8.6, 8 channels* | 6 A | 9000-41068-0600000 |
| | MICO Basic 5.2/3.6, 8 channels** | 5x2; 3x6A | 9000-41068-0200600 |
| | MICO+ 4.4, 4 channels** | 1, 2, 3, 4 A | 9000-42084-0100400 |
| | MICO+ 4.6, 4 channels | 1, 2, 4, 6 A | 9000-42084-0100600 |
| | MICO Fuse 24 LED | Delivered without fuses, with LED indicator and alarm contact, 24 V DC | 9000-41078-0600001 |
| | MICO Fuse 250 | Delivered without fuses, universal module from 0 to 250 V AC/DC | 9000-41078-0600002 |
| Note | | | |

* with GL approval For more information see: onlineshop.murrelektronik.com or request our main catalog

** With NEC Class 2 approval

| MICO PRO®




CURRENT MONITORING MODULARIZED



Mico Pro® is the new and innovative current monitoring system from Murrelektronik. The modular system enables you to adapt systems precisely to suit specific applications – offering a favorable cost-benefit ratio while also being economical in their use of space.

The patented tripping process assures optimum machine availability. An additional benefit: an integrated concept for potential distribution that significantly declutters the switch cabinet wiring.

Mico Pro® signals limit loads and switches defective channels off in a targeted manner to prevent total system crashes, and to assure a high level of machine availability.

The tripping process has been patented, and follows the rule: “as late as possible, as early as necessary”.





| Power module | | Description | Art. No. |
|---|--------------------------|-------------------------|--------------------|
|  | Mico Pro PM 24 V DC/40 A | Power module, max. 40 A | 9000-41190-0000000 |






| Modules with pre-fixed tripping current | Number of channels | Tripping current (pre-fixed) | Art. No. | |
|---|--------------------|------------------------------|----------|--------------------|
|  | Mico Pro fix 1.2 | 1 | 2 A | 9000-41011-0200000 |
| | Mico Pro fix 1.4 | 1 | 4 A | 9000-41011-0400000 |
| | Mico Pro fix 1.6 | 1 | 6 A | 9000-41011-0600000 |
| | Mico Pro fix 1.8 | 1 | 8 A | 9000-41011-0800000 |
| | Mico Pro fix 1.10 | 1 | 10 A | 9000-41011-1000000 |
| | Mico Pro fix 1.16 | 1 | 16 A | 9000-41011-1600000 |
|  | Mico Pro fix 2.2 | 2 | 2 A | 9000-41012-0200000 |
| | Mico Pro fix 2.4 | 2 | 4 A | 9000-41012-0400000 |
| | Mico Pro fix 2.6 | 2 | 6 A | 9000-41012-0600000 |
|  | Mico Pro fix 4.2 | 4 | 2 A | 9000-41014-0200000 |
| | Mico Pro fix 4.4 | 4 | 4 A | 9000-41014-0400000 |
| | Mico Pro fix 4.6 | 4 | 6 A | 9000-41014-0600000 |

MICO PRO® STANDS FOR:

- **Modularity**
– precise right down to the last channel
- **Integrated potential distribution concept**
– significantly simplifies switch cabinet wiring
- **Practical handling**
– assembly without tools
- **Diagnostics**
– on the module or via the PLC
- **Channel-specific switching**
– replaces the coupling level



| Modules with adjustable tripping current | | Number of channels | Tripping current (flexible adjustment) | Art. No. |
|---|--------------------|--------------------|--|--------------------|
|  | Mico Pro flex 1.10 | 1 | 1-2-3-4-5-6-7-8-9-10 A | 9000-41091-0101000 |
|  | Mico Pro flex 1.20 | 1 | 11-12-13-14-15-16-17-18-19-20 A | 9000-41091-1102000 |
|  | Mico Pro flex 2.10 | 2 | 1-2-3-4-5-6-7-8-9-10 A | 9000-41092-0101000 |
|  | Mico Pro flex 4.10 | 4 | 1-2-3-4-5-6-7-8-9-10 A | 9000-41094-0101000 |

| Accessories | | Description | Art. No. |
|---|--|--|--------------------|
|  | Mico Pro PD2x12 | Potential distributors, 2x 12 potentials, max 20 A | 9000-41000-0000212 |
|  | Mico Pro Plug-In link 2x blue | Endless Plug-In link max. 40 A, 500 mm length | 9000-41190-0000000 |
|  | Mico Pro Plug-In link 2x red | Endless Plug-In link max. 40 A, 500 mm length | 9000-41000-0000001 |
|  | Mico Pro Plug-In link 1x blue, 1x red | Endless Plug-In link max. 40 A, 500 mm length | 9000-41000-0000002 |
|  | Label | 5x10 mm, white, 64x | 996078 |

REDUNDANCY MODULES



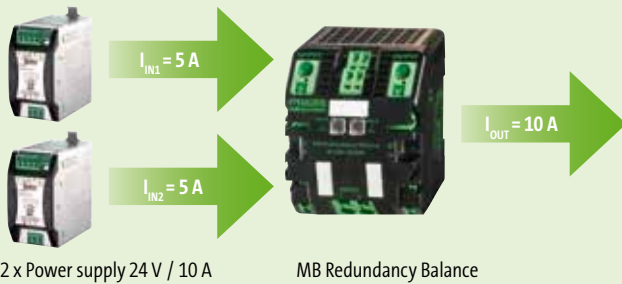
STOCK UP ON SAFETY!

Having the highest machine availability is an important subject. That's why power supply systems are often redundantly designed, with two power supply units. Murrelektronik's redundancy modules decouple two independent power supply units and generate redundant 24 V DC control voltages.

MB Redundancy Balance ensures automatic 50:50 balancing of power between the two units. For example: if the required load current is 10 A, this cabinet component ensures that both units supply 5 A. If one of the two power supply units fails, the other can continue to work because it is decoupled. The only condition is that each unit is in the position to supply the nominal current of the load.



FOR EQUAL LOADS ON BOTH POWER SUPPLY UNITS



EASY TO CONNECT



With the integrated bridging system, MB Redundancy Balance can be directly combined with the electronic load circuit control module MICO, without requiring wiring work.

| Ordering data | MB Diode | Art. No. | MB Redundancy Basic | Art. No. | MB Redundancy Balance | Art. No. |
|-------------------------------|--|----------|---|----------|----------------------------------|----------|
| 24 V DC | | 85396 | | 85495 | | 85496 |
| Input | | | | | | |
| Nominal voltage | 24 V DC | | | | | |
| Voltage range | 21...30 V DC | | 18...30 V DC | | | |
| Nominal current | 2 x 20 A / 1x 40 A | | 2 x 20 A | | | |
| Total current | max. 40 A | | max. 52 A | | | |
| Polarity | reverse polarity protection up to 60 V DC | | reverse polarity protection up to 30 V DC | | | |
| Output | | | | | | |
| Nominal output current | 20 A (-25...+55 °C); 40 A (-25...+40 °C) | | 40 A (-25...+60 °C); 52 A (-25...+40 °C) | | | |
| Status indicator | 1 LED per channel | | | | | |
| Alarm output (potential free) | Input voltages | | Input voltages | | Input voltages/Load distribution | |
| General data | | | | | | |
| Mounting method | spring clamp terminal | | | | | |
| Standards | EN 61000-6-2, EN 61000-6-3 | | | | | |
| Bridging | on both sides, with spring clamp terminals or bridge set | | | | | |
| Efficiency | > 97 % | | > 99,5 % | | | |
| Mounting method | DIN-rail mounting TH 35 (EN 60715) | | | | | |
| Approvals | UL | | | | | |

| MB CAP — BUFFER MODULES

STABLE POWER SUPPLY. SAFE PROCESSES.

Murrelektronik's MB Cap Ultra modules are buffer modules that ensure a stable power supply, guaranteeing secure industrial processes. They store energy and bridge voltage fluctuations of up to 38 seconds at 10 A, or for several minutes at 1 A, thanks to maintenance-free ultra capacitors.



| Load current | Buffer time seconds | | | | | | | | | | Minutes | | | | | | |
|--------------|---------------------|-----|-----|---|-----|---|---|----|----|----|---------|---|---|---|---|---|---|
| | 0,1 | 0,2 | 0,5 | 1 | 3,6 | 4 | 7 | 16 | 21 | 38 | 1 | 2 | 4 | 3 | 5 | 6 | 7 |
| 1 A | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 3 A | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | |
| 5 A | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| 10 A | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | |
| 20 A | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| 40 A | ● | ● | ● | ● | ● | | | | | | | | | | | | |

- MB Cap 20/24 A, 0,2 sec | 85394
- MB Cap Ultra 3/24 A, 7 sec | 85460
- MB Cap Ultra 10/24 A, 38 sec | 85467
- Emparro Cap 20/24 A, 1,0 sec | 85458
- MB Cap Ultra 20/24 A, 16 sec | 85468
- MB Cap Ultra 40/24 A, 3,6 sec | 85469
- Emparro Cap 20/48 A, 0,1 sec | 85459

| Model | Description | Art. No. |
|--------------------------------|---|----------------------------------|
| MB Cap 20/24 200ms | Description Nominal voltage: 23...30 V DC, output voltage: 22...28 V DC, max. output current: 20 A Buffer time: 0,2 sec/20 A, 4 sec/1 A Nominal voltage: 23...30 V DC, output voltage: 22...28 V DC, max. output current: 20 A Buffer time: 0,2 sec/20 A, 4 sec/1 A, varnished circuit board | 85394 85184 |
| MB Cap Ultra 3/24 7s | Description Nominal voltage: 24 V DC, output voltage: 24 V DC, max. output current: 3 A Buffer time: 7 sec/3 A, 21 sec/1 A MB Cap Ultra Expansion module 3/24 12s Nominal voltage: 24 V DC, output voltage: 24 V DC, max. output current: 3 A Buffer time: 12 sec/3 A, 36 sec/1 A | 85460 85462 |
| MB Cap Ultra 10/24 38s | Description Nominal voltage: 12 V/24 V DC, output voltage: 12 V/24 V DC, max. output current: 10 A Buffer time: 38 sec/10 A, > 6 min/1 A MB Cap Ultra Control Software and manual are available to download under www.murrelektronik.com | 85467 |
| Emparro Cap 20/24 1.0s | Description Nominal voltage: 24 V DC, output voltage: 24 V DC, max. output current: 20 A Buffer time: 1.0 sec/20 A | 85458 |
| MB Cap Ultra 20/24 16s | Description Nominal voltage: 24 V DC, output voltage: 24 V DC, max. output current: 20 A Buffer time: 16 sec/20 A, > 5 min/1 A MB Cap Ultra Control Software and manual are available to download under www.murrelektronik.com | 85468 |
| MB Cap Ultra 40/24 3.6s | Description Nominal voltage: 24 V DC, output voltage: 24 V DC, max. output current: 40 A Buffer time: 3.6 sec/40 A, 170 sec/1 A | 85469 |
| Emparro Cap 20/48 0.1s | Description Nominal voltage: 48 V DC, output voltage: 48 V DC, max. output current: 20A Buffer time: 0.1 sec/20A, 2.5 sec/1A | 85459 |

| TRANSFORMERS WITH MULTI-VOLTAGE INPUT



STOCK UP ON SAFETY!

A switch mode power supply unit doesn't match your requirements? Murrelektronik's transformers or rectified power supplies offer another option!

Plant and system manufacturers with international customers are familiar with the problem of different mains voltages. The new Murrelektronik transformer with multi-voltage input features clear advantages: This universal solution can handle input voltages from 208 to 550 V. This is ideal for companies who have customers all over the world.

The new Murrelektronik transformers with multi-voltage input are suitable for worldwide use. They feature a flexible selection of input voltages and can be adapted to the different mains voltages by simple bridging. The same transformer can be used for any machine, worldwide. A total of eleven different input voltages from 208 to 550 Volts are pre-configured.

The new Murrelektronik transformers are available with two times 115 Volts or – with series connection – 230 Volts. This makes it possible to conveniently handle the various operating voltages of the machines.

| Power rating | Input | Output | Art. No. |
|--------------|--|--------------|----------|
| 25 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86140 |
| 40 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86141 |
| 63 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86142 |
| 100 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86143 |
| 160 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86144 |
| 250 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86145 |
| 320 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86146 |
| 400 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86147 |
| 500 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86148 |
| 630 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86149 |
| 800 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86150 |
| 1000 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86151 |
| 1600 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86152 |
| 2000 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86153 |
| 2500 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86154 |
| 3000 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86155 |
| 4000 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86156 |
| 5000 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86157 |
| 6300 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86158 |
| 8000 VA | 208/230/380/400/420/440/460/480/500/525/550 V AC | 2 x 115 V AC | 86159 |

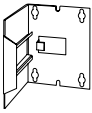
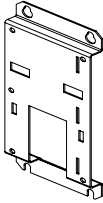
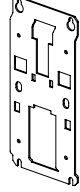

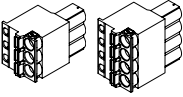
SAFETY TRANSFORMERS

| MTS | Power rating | Input | Output | Art. No. | |
|--|---|---------------------|---------------------|-------------|----------|
|  | 40 VA | 230/400 V AC | 24 V AC | 86340 | |
| | 63 VA | 230/400 V AC | 24 V AC | 86341 | |
| | 100 VA | 230/400 V AC | 24 V AC | 86342 | |
| | 160 VA | 230/400 V AC | 24 V AC | 86343 | |
| | 250 VA | 230/400 V AC | 24 V AC | 86345 | |
| | 40 VA | 230/400 V AC ± 15 V | 24 V AC | 86360 | |
| | 63 VA | 230/400 V AC ± 15 V | 24 V AC | 86361 | |
| | 100 VA | 230/400 V AC ± 15 V | 24 V AC | 86362 | |
| | 160 VA | 230/400 V AC ± 15 V | 24 V AC | 86363 | |
| | 250 VA | 230/400 V AC ± 15 V | 24 V AC | 86365 | |
| | MST | Power rating | Input | Output | Art. No. |
| |  | 320 VA | 230/400 V AC | 24 V AC | 86326 |
| | | 400 VA | 230/400 V AC | 24 V AC | 86327 |
| | | 500 VA | 230/400 V AC | 24 V AC | 86328 |
| 630 VA | | 230/400 V AC | 24 V AC | 86329 | |
| 800 VA | | 230/400 V AC | 24 V AC | 86330 | |
| 1000 VA | | 230/400 V AC | 24 V AC | 86331 | |
| MET | | Power rating | Input | Output | Art. No. |
|  | 500 VA | 230 V AC ± 5 V | 24 V AC | 86023 | |
| | 630 VA | 230 V AC ± 5 V | 24 V AC | 86033 | |
| | 800 VA | 230 V AC ± 5 V | 24 V AC | 86043 | |
| | 1000 VA | 230 V AC ± 5 V | 24 V AC | 86053 | |
| | 500 VA | 400 V AC ± 5 V | 24 V AC | 86024 | |
| | 630 VA | 400 V AC ± 5 V | 24 V AC | 86034 | |
| | 800 VA | 400 V AC ± 5 V | 24 V AC | 86044 | |
| | 1000 VA | 400 V AC ± 5 V | 24 V AC | 86054 | |
| | MTL | Power rating | Input | Output | Art. No. |
| |  | 25 VA | 230/400 V AC ± 15 V | 2 x 24 V AC | 86450 |
| 40 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86451 | |
| 63 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86452 | |
| 100 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86453 | |
| 160 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86454 | |
| 250 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86455 | |
| 320 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86456 | |
| 400 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86457 | |
| 630 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86463 | |
| 1000 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86464 | |
| 1600 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86465 | |
| 2500 VA | | 230/400 V AC ± 15 V | 2 x 24 V AC | 86466 | |

CONTROL AND ISOLATION TRANSFORMERS

| | | | | | |
|--|---|-------------------------|------------------------------|------------------------------|-----------------|
| MTS  | Power rating | Input | Output | Art. No. | |
| | 40 VA | 230/400 V AC | 230 V AC | 86346 | |
| | 63 VA | 230/400 V AC | 230 V AC | 86347 | |
| | 100 VA | 230/400 V AC | 230 V AC | 86348 | |
| | 160 VA | 230/400 V AC | 230 V AC | 86349 | |
| | 250 VA | 230/400 V AC | 230 V AC | 86351 | |
| | 40 VA | 230/400 V AC \pm 15 V | 230 V AC | 86366 | |
| | 63 VA | 230/400 V AC \pm 15 V | 230 V AC | 86367 | |
| | 100 VA | 230/400 V AC \pm 15 V | 230 V AC | 86368 | |
| | 160 VA | 230/400 V AC \pm 15 V | 230 V AC | 86369 | |
| | 250 VA | 230/400 V AC \pm 15 V | 230 V AC | 86371 | |
| MST  | Power rating | Input | Output | Art. No. | |
| | 320 VA | 230/400 V AC | 230 V AC | 86306 | |
| | 400 VA | 230/400 V AC | 230 V AC | 86307 | |
| | 500 VA | 230/400 V AC | 230 V AC | 86308 | |
| | 630 VA | 230/400 V AC | 230 V AC | 86309 | |
| | 800 VA | 230/400 V AC | 230 V AC | 86310 | |
| | 1000 VA | 230/400 V AC | 230 V AC | 86311 | |
| MET  | Power rating | Input | Output | Art. No. | |
| | 500 VA | 230 V AC \pm 5 % | 230 V AC | 86020 | |
| | 630 VA | 230 V AC \pm 5 % | 230 V AC | 86030 | |
| | 800 VA | 230 V AC \pm 5 % | 230 V AC | 86040 | |
| | 1000 VA | 230 V AC \pm 5 % | 230 V AC | 86050 | |
| | 1500 VA | 230 V AC \pm 5 % | 230 V AC | 86060 | |
| | 2000 VA | 230 V AC \pm 5 % | 230 V AC | 86070 | |
| | 3000 VA | 230 V AC \pm 5 % | 230 V AC | 86090 | |
| | 4000 VA | 230 V AC \pm 5 % | 230 V AC | 86110 | |
| | 5000 VA | 230 V AC \pm 5 % | 230 V AC | 86130 | |
| | 500 VA | 400 V AC \pm 5 % | 230 V AC | 86021 | |
| | 630 VA | 400 V AC \pm 5 % | 230 V AC | 86031 | |
| | 800 VA | 400 V AC \pm 5 % | 230 V AC | 86041 | |
| | 1000 VA | 400 V AC \pm 5 % | 230 V AC | 86051 | |
| | 1500 VA | 400 V AC \pm 5 % | 230 V AC | 86061 | |
| | 2000 VA | 400 V AC \pm 5 % | 230 V AC | 86071 | |
| | 3000 VA | 400 V AC \pm 5 % | 230 V AC | 86091 | |
| | 4000 VA | 400 V AC \pm 5 % | 230 V AC | 86111 | |
| | 5000 VA | 400 V AC \pm 5 % | 230 V AC | 86131 | |
| | MTL  | Power rating | Input | Output | Art. No. |
| | | 25 VA | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86470 |
| 40 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86471 | |
| 63 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86472 | |
| 100 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86473 | |
| 160 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86474 | |
| 250 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86475 | |
| 320 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86476 | |
| 400 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86477 | |
| 630 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86483 | |
| 1000 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86484 | |
| 1600 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86485 | |
| 2500 VA | | 230/400 V AC \pm 15 V | 2 x 115 V AC or 1 x 230 V AC | 86486 | |

| ACCESSORIES

| Mounting set | Description | Art. No. |
|---|---|-----------------|
|  | Suitable for MCS-B, size 40 mm | 89851 |
| | Suitable for MCS-B 5...10 A, size 65 mm | 89853 |
| Screw mounting | Description | Art. No. |
|  | Suitable for MCS-B, size 67.5 x 161 mm | 89514 |
| | | |
| Set for screw mounting | Description | Art. No. |
|  | Suitable for the Emparro series – ensures increased shock resistance acc. to IEC 60068-2-27 | 89519 |
| | Together with Emparro 40 A series up to 50 g | |
| Labels | Description | Art. No. |
|  | Quantity: 10 pieces, size 20 x 8 mm | 996067 |
| | | |
| Spring clamp terminals | Description | Art. No. |
|  | Suitable for Eco-Rail 1.3 A...10 A | 89517 |
| | 3- and 4-way terminal | |

| NOTES

A large grid of small dots for taking notes, consisting of 20 columns and 30 rows of dots.



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