MURR ELEKTRONIK

stay connected

- Efficient
- Reliable
- Rugged

SWITCH MODE POWER SUPPLIES

Power Supplies and Load Circuit Monitoring

DID YOU KNOW?

FACTS ABOUT MURRELEKTRONIK

- Represented worldwide with 21 branch offices and many international partners
- 1,600 employees
- Turnover € 180 M
- 2 million products in stock so you don't have to wait
- 30,000 different products

MURRELEKTRONIK HAS

- Products that ensure high machine availability
- Process-optimized system solutions
- Excellent logistics for fast deliveries

THE CORE OF YOUR CONTROL CABINET

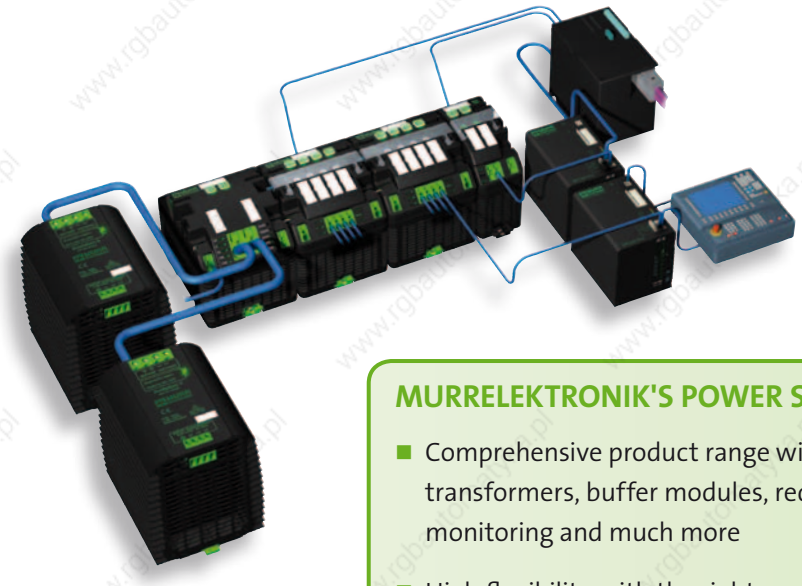
The power supply is the core of your control cabinet – and Murrelektronik's power supply units are the perfect regulators.

Our focus is to provide consistant, 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:

- in the machine tool building industry
- in the processing industry or in the
- shipbuilding industry

Our wide product range of power supply units are 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 power supplies are well-engineered. 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 purchase our products in over 40 countries.



MURRELEKTRONIK'S POWER SUPPLY SYSTEMS

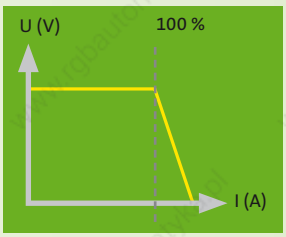
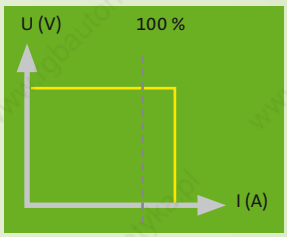
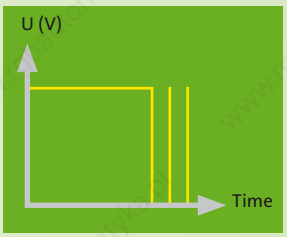
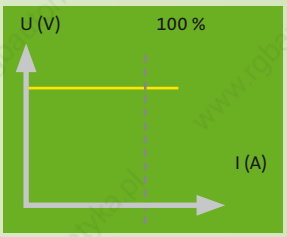
- Comprehensive product range with switch mode power supplies, transformers, buffer modules, redundancy modules, load circuit monitoring and much more
- High flexibility with the right model for your needs
- For global applications
- Our system specialists will help you create your perfect power supply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

Functions	PICCO SK	PICCO FK	ECO Power	ECO Rail	MCS-B	Evolution single phase	Evolution 2-/3-phase	Evolution+ 2-/3-phase	MCS
Screw terminal	x		x	x	x		x	x	x
Spring clamp terminal		x				x			
Pluggable terminal		x		x	x¹				
DIN rail mounting	x	x		x	x	x	x	x	x
Two mounting options				x					
Full power up to 40 °C	x	x	x	x	x	x	x	x	x
Full power up to 55 °C					x	x	x	x	x
20% more power up to 40 °C									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	x
Automatic wide voltage input 90...265 V	x	x	x¹	x¹	x	x			x
Automatic wide voltage input 360...520 V							x	x	
Parallel connection	x	x			x	x	x	x	x
Series connection	x	x	x	x	x	x	x	x	x
AC and DC input	x	x			x¹	x	x	x	x¹
PFC	x	x				x	x	x	x
UL	x	x		x	x	x	x	x	x
GL					x¹	x	x	x	
Alarm contact						x		x	
Varnished circuit board								x	
¹ some models	p. 12	p. 12	p. 11	p. 10	p. 08	p. 08	p. 06	p. 07	Online Shop

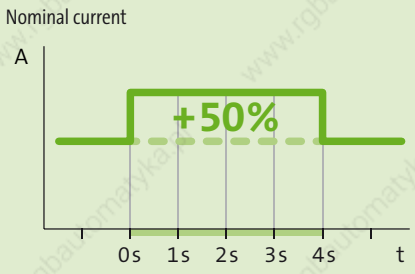
Product Selection	Output									
Single-phase input	5 V	3 A					85371				
		6 A									85041
	12 V	0.85... 1 A	87012	87112			85372				
		2.5 A	87014	87114			85373				
		4.5... 5 A	87016	87116							85040
		6 A	87018	87118							
	24 V	0.6 A	87011	87111	85150		85160				
		1.3 A	87013	87113	85151	85301	85161				
		2.5 A	87015	87115	85152	85302	85162				85064
		3 A									85060
		4.2... 5 A	87017	87117	85153	85303	85163	85450			85061
		7.5 A			85154		85164				
		10 A			85155	85305	85165	85451			85062
		20 A									85063
	30.5 V	4 A					85381 85382				
2-phase input	24 V	5 A									857725
		10 A									857726
3-phase input	24 V	5 A							85000	85640	857814
		10 A							85001	85641	85071
		20 A							85002	85642	85072
		40 A							85004	85644²	85099

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 feature the following characteristics:

Power Limiter	Current Limiter	Auto Restart	Manual Restart
			
PICCO	**Evolution**	**MCS-B and MCS**	**MCS**
■ Starts large loads reliably ■ Limited function in case of error	■ Starts large loads reliably ■ Limited function in case of error ■ PowerBoost function	■ Powers down in case of error ■ Restarts automatically when error is fixed	■ Requires manual restart after error

POWERBOOST 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.

EVOLUTION

Single Phase Efficiency

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.

Power Loss

An example, Your 24 V/10 A unit has an efficiency of 85 %, which corresponds to a power loss of 15 % or 36 W. With an efficiency of 93 %, the power loss is already reduced by 50 % 16.8 W.

Temperature

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

Single phase operation, primary switched

- **4 seconds PowerBoost**
- **high efficiency**
- **alarm contact**
- **spring clamp terminals enable quick mounting**

	Evolution Current 5 A / 120 W	**Evolution** Current 10 A / 240 W
		
Ordering data	**Art.-No.**	**Art.-No.**
24 V DC /5 A	**85450**	
24 V DC/10 A		**85451**
Input		
Nominal voltage AC/DC	85...265 V AC / 90...125 V DC	85...265 V AC / 90...125 V DC
Input current	1.33 A at 100 V AC / 0.57 A at 240 V AC	2.6 A at 100 V AC / 1.2 A at 240 V AC
Inrush current after 1 ms	< 8 A at 230 V AC	< 8 A at 230 V AC
Primary fusing	max. 20 A (T)	max. 20 A (T)
Output		
Output voltage	24 V DC ± 1 % , 22...28 V DC	24 V DC ± 1 %, 22...28 V DC
Nominal output current	24 V DC; 5 A (+60 °C) / 28 V DC; 4.3 A (+60 °C)	24 V DC; 10 A (+60 °C) / 28 V DC; 8.5 A (+60 °C)
Powerboost	7.5 A > 4 sec. without voltage dip	15 A > 4 sec. without voltage dip
Efficiency	93 %	> 93 %
Protection	short circuit and overload protected (output)	short circuit and overload protected (output)
Parallel mode	max. 5 units	max. 5 units
Serial mode	Max. 2 units in serial operation to maintain the SELV output. With more than 2 units, the output voltage exceeds the permissible voltage limit for SELV. Max. 6 units can be connected in series.	Max. 2 units in serial operation to maintain the SELV output. With more than 2 units, the output voltage exceeds the permissible voltage limit for SELV. Max. 6 units can be connected in series.
General data		
Standards	EN 60950-1, EN 61204-3, EN 55011 A, EN 61000-3-2	EN 60950-1, EN 61204-3, EN 55011 A, EN 61000-3-2
Temperature range	–25...+60 °C (storage temperature –40 ... +85 °C)	–25...+60 °C (storage temperature –40...+85 °C)
Mounting method	DIN rail mounting TH35 (EN 60715)	DIN rail mounting TH35 (EN 60715)
Dimensions (H x W x D)	115 x 62 x 125 mm	115 x 62 x 165 mm
Other	alarm contact	alarm contact

EVOLUTION AND EVOLUTION+

Two-/three-phase operation, primary switched

– 4 seconds PowerBoost
– Current Limiter

Ordering data	Evolution/Evolution+ Current 5 A / 120 W	Evolution/Evolution+ Current 10 A / 240 W	Evolution/Evolution+ Current 20 A / 480 W	Evolution/Evolution+ Current 40 A / 960 W
	Art.-No.	Art.-No.	Art.-No.	Art.-No.
Evolution: 24 V DC	**85000**	**85001**	**85002**	**85004**
Evolution+: 24 V DC	[1] **85460**	[1] **85461**	[1] **85642**	[1] **85644**
Input				
Nominal voltage	3 x 324...572 V AC, 480...745 V DC			
Input current	3 x 0.3 A	3 x 0.8 A	3 x 1.3 A	3 x 2.4 A
Inrush current after 1 ms	≤ 10 A	≤ 15 A	≤ 19 A	–
Primary fusing	max. 3 x 10 A			max. 3 x 20 A
Output				
Output voltage	24 V DC (SELV) ± 1 %, 22...28 V adjustable			
Nominal output current	5 A (+55 °C); 3 A (+70 °C)	10 A (+55 °C); 6.5 A (+70 °C)	20 A (+55 °C); 15.8 A (+70 °C)	40 A +(55 °C); 30 A (+70 °C)
Powerboost	7.5 A (≥ 4 sec.)	15 A (≥ 4 sec.)	30 A (≥ 4 sec.)	60 A (≥ 4 sec.)
Efficiency	86 %	90 %		91 %
Protection	short circuit and overload protected (Current Limiter)			
Parallel usage/serial usage	max. 5 units/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 55011 A	
Temperature range	–25...+60 °C (storage temp. –40...+85 °C)	–25...+70 °C (storage temp. –40...+85 °C)		
Mounting method	DIN-rail mounting (TH 35) acc. to EN 60715			
Dimensions (H x W x D)	132 x 83 x 98 mm	132 x 93 x 114 mm	132 x 113 x 136 mm	132 x 164 x 142 mm
Other [1]	Signal contact with circuit board with protective varnish			

Two-/three-phase operation, primary switched

– 4 seconds PowerBoost
– Current Limiter

Ordering data	Evolution Current 20 A / 240 W
	Art.-No.
12.5 V DC	**85016**
Input	
Nominal voltage	3 x 324...572 V AC, 480...745 V DC
Input voltage	3 x 1.3 A
Inrush current after 1 ms	≤ 19 A
Primary fusing	max. 3 x 10 A
Output	
Output voltage	12.5 V DC (SELV), 11.5...13.5 V DC
Nominal output current	20 A (+55 °C); 15.8 A (+70 °C)
Powerboost	30 A (≥ 4 sec.)
Efficiency	90 %
Protection	short circuit and overload protected (Current Limiter)
Parallel usage/serial usage	max. 5 units/max. 2 units
General data	
Standards	EN 60950-1, EN 61204-3, EN 55011 A
Temperature range	–25...+70 °C (storage temperature –40...+85 °C)
Mounting method	DIN-rail mounting (TH35) acc. to EN 60715
Dimensions (H x W x D)	132 x 93 x 114 mm

MCS-B

Single phase operation, primary switched

– Auto Restart

Approvals

	MCS-B Current 0.6 A / 15 W	MCS-B Current 1.3 A / 30 W	MCS-B Current 2.5 A / 60 W
			
Ordering data	**Art.-No.**	**Art.-No.**	**Art.-No.**
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)
Primary fusing	max. 10 A		
Output			
Output voltage	24 V DC (SELV) ± 1 %, 22.5...28 V DC adjustable		
Nominal output voltage	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)
Efficiency	81 % (100 V AC); 83 % (230 V AC)	82 %	85 % (110 V AC); 87 % (230 V AC)
Protection	short circuit and overload protected (Auto Restart)		
Parallel usage/serial usage	max. 5 units/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		
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

Single phase operation, primary switched

– Auto Restart

Approvals

	MCS-B Current 5 A / 120 W	MCS-B Current 7.5 A / 180 W	MCS-B Current 10 A / 240 W	MCS Current 20 A / 480 W
				
Ordering data	**Art.-No.**	**Art.-No.**	**Art.-No.**	**Art.-No.**
24 V DC	**85163**	**85164**	**85165**	**85063**
Input				
Nominal voltage	100...265 V AC			100...240 V AC
Input current	2 A (110 V AC); 1.16 A (230 V AC)	2.9 A (115 V AC); 1.6 A (230 V AC)	3.4 A (115 V AC); 2.2 A (230 V AC)	5.5 A (100 V AC); 2.4 A (230 V AC)
Primary fusing	max. 10 A		max. 16 A	20 A
Output				
Output voltage	24 V DC (SELV) ± 1 %, 22.5...28 V DC adjustable			24 V DC ± 1 %, 22.5...28 V DC
Nominal output current	5 A (+55 °C)...3 A (+70 °C)	7.5 A (+55 °C)...4.5 A (+70 °C)	10 A (+55 °C)...6.0 A (+70 °C)	20 A (+60 °C)...24 A (+40 °C)
Efficiency	86 % (110 V AC); 87 % (230 V AC)	87 % (115...230 V AC 24 V DC)	83 % (115 V DC); 85 % (230 V AC)	87 % (230 V AC)
Protection	short circuit and overload protected (Auto Restart)			short circuit and overload protected
Parallel usage/serial usage	max. 5 units/max. 2 units			–
General data				
Standards	EN 60950-1, EN 61204-3, EN 55011 A			EN 60950-1, EN 61204-3
Temperature range	0...+40 °C, up to +55 °C Derating			0...+60 °C
Mounting method	DIN-rail mounting TH35 (EN 60715)			
Dimensions (H x W x D)	115 x 54 x 125 mm	115 x 54 x 145 mm	128 x 68 x 165 mm	209 x 84 x 233 mm

MCS-A AND MCS-B

Single phase operation, primary switched

– voltage supply for the AS-Interface bus

Approvals

	MCS-A 4	MCS-A 4 EFD
	Current 4 A / 122 W	Current 4 A / 122 W
		
Ordering data	**Art.-No.**	**Art.-No.**
30.5 V DC	**85381**	**85382**
Input		
Nominal voltage	95...265 V AC	
Input current	2.1 A (110 V AC); 0.93 A (230 V AC)	
Primary fusing	max. 10 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 (Auto Restart)	
Output filter	filter acc. to AS-Interface specification	
General data		
Standards	EN 60950-1, EN 61204-3, EN 55022 B	
Temperature range	–10...+ 40 °C, up to +55 °C Derating (storage temperature –20...+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 CEFO switching output

Single phase operation, primary switched

– Auto Restart

	MCS-B	MCS-B	MCS-B
	Current 3 A / 15 W	Current 1 A / 12 W	Current 2.5 A / 30 W
			
Ordering data	**Art.-No.**	**Art.-No.**	**Art.-No.**
5 V DC	**85371**		
12 V DC		**85372**	**85373**
Input			
Nominal voltage	95...265 V AC; 110...300 V DC	90...265 V AC; 110...300 V DC	95...265 V AC; 110...300 V DC
Input current	0.3 A (115 V AC); 0.2 A (230 V AC)	0.33 A (100 V AC); 0.16 A (230 V AC)	0.56 A (115 V AC); 0.31 A (230 V AC)
Primary fusing	max. 10 A		
Output			
Output voltage	5 V DC (SELV) ± 1 %, 4.2...6 V adjustable	12 V DC (SELV) ± 1 %, 12...15 V adjustable	
Nominal output current	3 A (+40 °C); 2.5 A (+55 °C)	1 A (+50 °C); 0.8 A (+60 °C)	2.5 A (+40 °C); 2.1 A (+55 °C)
Efficiency	80 %	77 %	82 %
Protection	short circuit and overload protected (Auto Restart)		
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	0...+50 °C	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		

ECO RAIL

Single phase operation, primary switched

– pluggable screw terminals

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) ± 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 (Auto Restart)	
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	

Single phase operation, primary switched

– pluggable screw terminals

Eco Rail
Current 5 A / 120 W

Eco Rail
Current 10 A / 240 W

Ordering data	Art.-No.	Art.-No.
24 V DC	**85303**	**85305**
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)	4.0 A (115 V AC); 2.4 A (230 V AC)
Primary fusing	max. 20 A	
Output		
Output voltage	24 V DC (SELV) ± 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)
Efficiency	84 % (115 V AC); 86 % (230 V AC)	87 % (115 V AC); 88 % (230 V AC)
Protection	short circuit and overload protected (Current Limiter)	short circuit and overload protected (Auto Restart)
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
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. 16 A			
Output				
Output voltage	24 V DC (SELV) ± 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 (Auto Restart)			
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 Current7.5 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. 16 A	
Output		
Output voltage	24 V DC (SELV) ± 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, primary switched

– adjustable output voltage
– 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)
Output				
Output voltage	24 V DC, SELV ± 1 %; 24...28 V adjustable			
Nominal output current	0.42 A (+50 °C)...0.042 A (+70 °C)	1.25 A (+50 °C)...0.125 A (+70 °C)	2.5 A (+50 °C)...0.25 A (+70 °C)	4.2 A (+50 °C)...0.42 A (+70 °C)
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

Single phase operation, primary switched

– adjustable output voltage
– 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)
Output				
Output voltage	12 V DC, SELV, ± 1 %; 12...15 V adjustable			
Nominal output current	0.85 A (+50 °C)...0.085 A (+70 °C)	2.5 A (+50 °C)...0.25 A (+70 °C)	4.5 A (+50 °C)...0.45 A (+70 °C)	6 A (+50 °C)...0.6 A (+70 °C)
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 V DC. It monitors currents, indicates when approaching the maximum load and ensures machine availability. **For a powerful combination, we suggest you combine power supplies with MICO.** You can choose between **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+	Description	Adjustable current ranges	Art.-No.
	MICO+ 4.4, 4 channels	1 A, 2 A, 3 A, 4 A	9000-41084-0100400
	MICO+ 4.6, 4 channels	1 A, 2 A, 4 A, 6 A	9000-41084-0100600
	MICO+ 4.10, 4 channels	4 A, 6 A, 8 A, 10 A	9000-41084-0401000

MICO Classic	Description	Adjustable current ranges	Art.-No.
	MICO Classic 2.4, 2 channels	1 A, 2 A, 3 A, 4 A	9000-41042-0100400
	MICO Classic 2.6, 2 channels	1 A, 2 A, 4 A, 6 A	9000-41042-0100600
	MICO Classic 2.10, 2 channels	4 A, 6 A, 8 A, 10 A	9000-41042-0401000
	MICO Classic 4.4, 4 channels	1 A, 2 A, 3 A, 4 A	9000-41034-0100400
	MICO Classic 4.6, 4 channels	1 A, 2 A, 4 A, 6 A	9000-41034-0100600
	MICO Classic 4.10, 4 channels	4 A, 6 A, 8 A, 10 A	9000-41034-0401000
	MICO Classic 4.4.10 Actuator Sensor 4 channels	2x 1 A, 2 A, 3 A, 6 A, 2x 4 A, 6 A, 8 A, 10 A	9000-41034-0101000
	MICO Classic 4.10 Speed-Start 4 channels	4 A, 6 A, 8 A, 10 A	9000-41034-0401005

MICO Basic	Description	Preset current ranges	Art.-No.
	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 channel	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 Fuse	Description	Other	Art.-No.
	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

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

MB DIODE

When one is not enough!

MB Diode is a decoupling module for creating redundant power supplies.

Two identical power supply units are required for redundant power supply. MB Diode decouples these units so that you can create a power supply independent of one of the two power supplies.

If there is an error or a voltage drop in one of the power supplies, the other unit continues to carry the supply so the system remains uninterrupted. This increases system reliability.

MB Diode	Description	Art.-No.
Ordering data		85396
Input	**Description**	
Nominal voltage	24 V DC	
Voltage range	21...30 V DC	
Nominal current	2 x 20 A / 1x 40 A	
Total current	max. 40 A	
Polarity	internal reverse polarity protection up to 60 V DC	
Output	**Description**	
Output voltage	24 VDC	
Voltage range	21...30 V DC	
Nominal output current	20 A (-25...+55 °C); 40 A (-25...+40 °C)	
Overload	at 20 A +50 % for 4 sec.	
Status indicator	1 LED per channel	
Alarm output relay contact	1 potential-free alarm output per channel	
General data	**Description**	
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 %	
Power loss	approx. 0.5 V x I	
Mounting method	DIN-rail mounting TH 35 (EN 60715)	

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.

MB CAP OVERVIEW

	Buffer time Seconds								Minutes							
Load current	0.2	0.5	1	4	7	16	21	38	1	2	4	3	5	6	7	8
1 A	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
3 A	●	●	●	●	●	●	●	●	●	●						
5 A	●	●	●	●	●	●	●	●	●							
10 A	●	●	●	●	●	●	●	●								
20 A	●	●	●	●	●	●										

● MB Cap 20/24 200ms ● MB Cap Ultra 3/24 7s ● MB Cap Ultra 10/24 38s ● MB Cap Ultra 20/24 16s

MB Cap Ultra 20/24 16s	Description	Art.-No.
	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 10/24 38s	Description	Art.-No.
	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

MB Cap Ultra 3/24 7s	Description	Art.-No.
	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	85460

MB Cap 20/24 200ms	Description	Art.-No.
	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	85394
	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	85184

MB Cap Ultra Exp. Module 3/24 12s	Description	Art.-No.
	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 To expand 85460 or 85468	85462

| TRANSFORMERS WITH MULTI-VOLTAGE INPUT

Multi-Voltage Transformers offer options

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 V to 550 V. This is ideal for companies who have customers all over the world.

The new Murrelektronik transformers are available with two times 115 V or, using a series connection, 230 V on the secondary side. This makes it possible to conveniently handle the various operating voltages of the machines.

MTS 0160-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	160 VA	208...550 V AC	2 x 115 V AC	**86144**
MST 0500-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	500 VA	208...550 V AC	2 x 115 V AC	**86148**
MST 0800-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	800 VA	208...550 V AC	2 x 115 V AC	**86150**
MST 1000-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	1000 VA	208...550 V AC	2 x 115 V AC	**86151**
MST 1600-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	1600 VA	208...550 V AC	2 x 115 V AC	**86152**
MST 2000-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	2000 VA	208...550 V AC	2 x 115 V AC	**86153**
MST 2500-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	2500 VA	208...550 V AC	2 x 115 V AC	**86154**
MST 5000-208...550/2x115	**Power rating**	**Input**	**Output**	**Art.-No.**
	5000 VA	208...550 V AC	2 x 115 V AC	**86157**

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**
	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

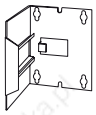
MTS	Power rating	Input	Output	Art.-No.
	40 VA	230/400 V AC	230 V AC	**86346**
	63 VA	230/400 V AC	230 V AC	**86347**
	100 VA	230/400 V AC	230 V AC	**86348**
	160 VA	230/400 V AC	230 V AC	**86349**
	250 VA	230/400 V AC	230 V AC	**86351**
	40 VA	230/400 V AC ± 15 V	230 V AC	**86366**
	63 VA	230/400 V AC ± 15 V	230 V AC	**86367**
	100 VA	230/400 V AC ± 15 V	230 V AC	**86368**
	160 VA	230/400 V AC ± 15 V	230 V AC	**86369**
	250 VA	230/400 V AC ± 15 V	230 V AC	**86371**

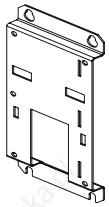
MST	Power rating	Input	Output	Art.-No.
	320 VA	230/400 V AC	230 V AC	**86306**
	400 VA	230/400 V AC	230 V AC	**86327**
	500 VA	230/400 V AC	230 V AC	**86328**
	630 VA	230/400 V AC	230 V AC	**86329**
	800 VA	230/400 V AC	230 V AC	**86330**
	1000 VA	230/400 V AC	230 V AC	**86331**

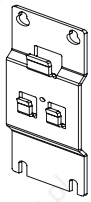
MET	Power rating	Input	Output	Art.-No.
	500 VA	230 V AC ± 5 %	230 V AC	**86020**
	630 VA	230 V AC ± 5 %	230 V AC	**86030**
	800 VA	230 V AC ± 5 %	230 V AC	**86040**
	1000 VA	230 V AC ± 5 %	230 V AC	**86050**
	1500 VA	230 V AC ± 5 %	230 V AC	**86060**
	2000 VA	230 V AC ± 5 %	230 V AC	**86070**
	3000 VA	230 V AC ± 5 %	230 V AC	**86090**
	4000 VA	230 V AC ± 5 %	230 V AC	**86110**
	5000 VA	230 V AC ± 5 %	230 V AC	**86130**
	500 VA	400 V AC ± 5 %	230 V AC	**86021**
	630 VA	400 V AC ± 5 %	230 V AC	**86031**
	800 VA	400 V AC ± 5 %	230 V AC	**86041**
	1000 VA	400 V AC ± 5 %	230 V AC	**86051**
	1500 VA	400 V AC ± 5 %	230 V AC	**86061**
	2000 VA	400 V AC ± 5 %	230 V AC	**86071**
	3000 VA	400 V AC ± 5 %	230 V AC	**86091**
	4000 VA	400 V AC ± 5 %	230 V AC	**86111**
	5000 VA	400 V AC ± 5 %	230 V AC	**86131**

MTL	Power rating	Input	Output	Art.-No.
	25 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86470**
	40 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86471**
	63 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86472**
	100 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86473**
	160 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86474**
	250 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86475**
	320 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86476**
	400 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86477**
	630 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86483**
	1000 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86484**
	1600 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86485**
	2500 VA	230/400 V AC ± 15 V	2 x 115 V AC or 1 x 230 V AC	**86486**

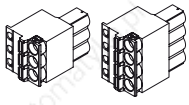
ACCESSORIES

Mounting set	Description	Art.-No.
	Suitable for: MCS and MCS-B, size 40 mm	89851
	Suitable for: MCS, size 50 mm	89852
	Suitable for: MCS10 and MCS-B 5...10 A, size 65 mm	89853

Screw mounting	Description	Art.-No.
	Suitable for: MCS-B 10, size 67.5 x 161 mm	89514

Set for screw mounting	Description	Art.-No.
	Suitable for: Eco-Rail	89516

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	

Switch mode power supplies | 06_12 EN | Art.-No. 9844072

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