60 W and 50 W High efficiency, low profile Modular DC Power Supplies for electrical cabinets

Fold-Back overload characteristics for Battery charging applications and parallel working for increased load current

Type 78.61
- Output 24 V DC, 60 W

Type 78.51
- Output 12 V DC, 50 W

- High efficiency (up to 91%)
- Low (< 0.4 W) stand-by power consumption
- Thermal protection: internal, with V_{out} shutdown - power OFF to reset
- Short circuit protection: Hiccup (auto-recovery) mode
- Overload protection: Fold-back mode
- Input fuse: Easily replaceable plus spare
- Overvoltage protection: Varistor
- Flyback topology
- ZVS (Zero-voltage-switching), quasi-resonant mode switching
- Compliant with EN 60950-1 and EN 61204-3
- Parallel working for increased load current (with OR diodes)
- Dual Polarity and Series connection permissible
- Small dimensions: 70 mm (4-modules) wide, 60 mm deep
- 35 mm rail (EN 60715) mount

Screw terminal

For outline drawing see page 17

NEW **78.61**

- 24 V DC, 60 W output
- Output adjustable between 24-28 V
- ZVS technology
- Suitable for battery charging

NEW **78.51**

- 12 V DC, 50 W output
- Output adjustable between 12-15 V
- ZVS technology
- Suitable for battery charging

Replaceable fuse + spare

* (see diagrams P78)
** peak to peak, 100 Hz component, with 100 V AC input
*** (see derating diagrams L78)
suitable for battery charging (see details page 11)

			78.61	78.51
Output specification				
Output current (–20…+40 °C, 230 V AC input)		A	2.6	4.6
Rated current I_N (50 °C, full input operating range)		A	2.5	4.2
Rated voltage		V	24	12
Rated power		W	60	50
Output power (–20…+40 °C, 230 V AC input)		W	68	55
Peak current capability for 3 ms*		A	8	12
Output voltage adjust		V	24…28	12…15
Voltage variation (from no-load to full-load)			< 1%	< 1%
Voltage ripple @ full load**		mV	< 200	< 200
Hold-up time @ full load:	with 100 V AC input	ms	> 20	> 30
	with 260 V AC input	ms	> 130	> 150
Input specification				
Nominal voltage (U_N)	V AC (50/60 Hz)		110…240	110…240
	V DC (not polarized)		220	220
Operating range	V AC (50/60 Hz)		88…265	88…265
	V DC		140…370	140…370
Max power consumption		VA	90	89
(@ 100 V AC, 50 Hz)		W	67.5	58.3
Stand-by power consumption		W	< 0.4	< 0.4
Power factor			0.75	0.65
Max current consumption (@ 88 V AC)		A	0.9	0.85
Max. inrush current (peak @ 265 V) for 3 ms		A	30	30
Replaceable input fuse			1.6 A - T	1.6 A - T
Technical data				
Efficiency (@ 230 V AC)		%	91	90
MTTF		h	> 500 · 10^3	> 400 · 10^3
Start-up delay		s	< 1	< 1
Dielectric strength between input/output		V AC	3000 (class II)	3000 (class II)
Dielectric strength between input/PE		V AC	1500 (class I)	1500 (class I)
Ambient temperature range***		°C	–20…+70	–20…+70
Protection category			IP 20	IP 20
Approvals (according to type)			CE EAC	

F

Industrial Switch Mode DC Power Supplies: 120 W and 130 W

Fold-Back overload characteristics for Battery charging applications and parallel working for increased load current

Type 78.1C
- Output 24 V DC, 120 W

Type 78.1D
- Output 24 V DC, 130 W
- Double stage active Power Factor Correction

- High efficiency (up to 90%)
- Low stand-by power consumption
- Forward topology
- Thermal protection: internal with pre-alert alarm via LED and auxiliary contact, and with V_{out} safety shutdown - power OFF to reset
- Overload indication: Pre-alert alarm via LED and auxiliary contact indication
- Boost current: Without time limit, with LED and auxiliary contact indication
- Overload protection: Fold-back mode
- Short circuit protection: Hiccup (auto-recovery) mode
- Input fuse: Easily replaceable plus spare
- Overvoltage protection: Varistor
- Compliant with EN 60950-1 and 61204-3
- Parallel working for increased load current (with OR diodes)
- Dual Polarity and Series connection permissible
- 35 mm rail (EN 60715) mount

For outline drawing see page 17

	78.1C	78.1D
	• 24 V DC, 120 W output • Output adjustable between 24-28 V	• 24 V DC, 130 W output • Output adjustable between 24-28 V • Double stage with active PFC (Power Factor Correction)

Replaceable fuse + spare

Thermal protection with LED indication

Auxiliary contact signalling

* (see diagrams P78)
** peak to peak, 100 Hz component, with 110 V AC input
*** (see derating diagrams L78)
suitable for battery charging (see details page 11)

Output specification			
Output current (–20…+40 °C, 230 V AC input)	A	5.4	5.4
Rated current I_N (50 °C, full input operating range)	A	5	5.4
Rated voltage	V	24	24
Rated power	W	120	130
Output power (–20…+40 °C, 230 V AC input)	W	130	130
Peak current capability for 5 ms*	A	15	10
Output voltage adjust	V DC	24…28	24…28
Voltage variation (from no-load to full-load)		< 1%	< 1%
Voltage ripple @ full load**	mV	< 100	< 100
Hold-up time @ full load: with 110 V AC input	ms	> 10	> 20
with 260 V AC input	ms	> 80	> 20
Input specification			
Nominal voltage (U_N) V AC (50/60 Hz)		120…240	110…240
V DC		220	110…240
Operating range V AC (50/60 Hz)		110…265	88…265
V DC		155…275 (polarized)	95…275 (non-polarized)
Drop out DC Voltage	V	140 (with I_{output} = 2.5 A)	80
Max power consumption	VA	195 (@ 60 Hz)	145 (@ 50 Hz)
(@ minimum V AC operating range)	W	137 (@ 60 Hz)	145 (@ 50 Hz)
Stand-by power consumption	W	< 2.1	< 3.3
Power factor		0.7	0.998
Max current consumption	A	1.7 (@ 110 V AC)	1.6 (@ 88 V AC)
Max. inrush current (peak @ 265 V) for 3 ms	A	10	12
Replaceable input fuse		2.5 A - T	2.5 A - T
Technical data			
Efficiency (@ 230 V AC)	%	90	89
MTTF	h	> 500 · 10^3	> 400 · 10^3
Start-up delay	s	< 1	< 1
Dielectric strength between input/output	V AC	2500 (class II)	2500 (class II)
Dielectric strength between input/PE	V AC	1500 (class I)	1500 (class I)
Ambient temperature range***	°C	–20…+70	–20…+70
Protection category		IP 20	IP 20
Approvals (according to type)		CE EAC cULus	CE EAC cULus