

Input voltage up to 150 V DC
1 to 4 isolated outputs 3.3...96 V DC
4242V DC I/O electric strength test voltage

- Extremely slim case (4 TE), fully enclosed
- Extremely low inrush current, hot swappable
- Operating ambient temperature range –40...71°C with convection cooling

Selection chart

Output 1			Output 2			Output 3			Output 4			Type	Type
$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	Input voltage 16...36 V DC	Input voltage 33.6...75 V DC
3.3	100	132	-	-	-	-	-	-	-	-	-	BP 1101-7R	CP 1101-7R
5.1	122	183	-	-	-	-	-	-	-	-	-	BP 1001-7R	CP 1001-7R
3.3	50	66	5.1	61	91	-	-	-	-	-	-	BP 2101-7R	CP 2101-7R
5.1	61	91	5.1	61	91	-	-	-	-	-	-	BP 2001-7R	CP 2001-7R
12	60	96	12	60	96	-	-	-	-	-	-	BP 2320-7R	CP 2320-7R
15	60	97.5	15	60	97.5	-	-	-	-	-	-	BP 2540-7R	CP 2540-7R
24	60	96	24	60	96	-	-	-	-	-	-	BP 2660-7R	CP 2660-7R
5.1	61	91	12	30	48	12	30	48	-	-	-	BP 3020-7R	CP 3020-7R
5.1	61	91	15	30	48	15	30	48	-	-	-	BP 3040-7R	CP 3040-7R
24	30	48	24	30	48	24	30	48	24	30	48	BP 4660-7R	CP 4660-7R

Output 1			Output 2			Output 3			Output 4			Type	Type
$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	Input voltage 40…100.8VDC	Input voltage 66...150 V DC
3.3	100	132	-	-	-	-	-	-	-	-	-	DP 1101-7R	EP 1101-7R
5.1	122	183	-	-	-	-	-	-	-	-	-	DP 1001-7R	EP 1001-7R
3.3	50	66	5.1	61	91	-	-	-	-	-	-	DP 2101-7R	EP 2101-7R
5.1	61	91	5.1	61	91	-	-	-	-	-	-	DP 2001-7R	EP 2001-7R
12	60	96	12	60	96	-	-	-	-	-	-	DP 2320-7R	EP 2320-7R
15	60	97.5	15	60	97.5	-	-	-	-	-	-	DP 2540-7R	EP 2540-7R
24	60	96	24	60	96	-	-	-	-	-	-	DP 2660-7R	EP 2660-7R
5.1	61	91	12	30	48	12	30	48	-	-	-	DP 3020-7R	EP 3020-7R
5.1	61	91	15	30	48	15	30	48	-	-	-	DP 3040-7R	EP 3040-7R
24	30	48	24	30	48	24	30	48	24	30	48	DP 4660-7R	EP 4660-7R

Output 1			Output 2			Output 3			Output 4			Type
$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	$U_{o\,nom}$ [V DC]	$P_{o\,nom}$ [W]	$P_{o\,max}$ [W]	Input voltage 21.6...50.4 V DC
3.3	100	132	-	-	-	-	-	-	-	-	-	GP 1101-7R
5.1	122	183	-	-	-	-	-	-	-	-	-	GP 1001-7R
3.3	50	66	5.1	61	91	-	-	-	-	-	-	GP 2101-7R
5.1	61	91	5.1	61	91	-	-	-	-	-	-	GP 2001-7R
12	60	96	12	60	96	-	-	-	-	-	-	GP 2320-7R
15	60	97.5	15	60	97.5	-	-	-	-	-	-	GP 2540-7R
24	60	96	24	60	96	-	-	-	-	-	-	GP 2660-7R
5.1	61	91	12	30	48	12	30	48	-	-	-	GP 3020-7R
5.1	61	91	15	30	48	15	30	48	-	-	-	GP 3040-7R
24	30	48	24	30	48	24	30	48	24	30	48	GP 4660-7R

Input

Input voltage	refer to selection chart

Output

Nominal output current $I_{o1,2,3,4\,nom}$		$P_{o\,nom}$/Number of outputs/$U_{o1,2,3,4\,nom}$
Maximal output current $I_{o1,2,3,4\,max}$		$P_{o\,max}$/Number of outputs/$U_{o1,2,3,4\,nom}$
Efficiency	$U_{i\,nom}$, $I_{o\,nom}$	up to 92%
Voltage setting accuracy 1, 2	$U_{i\,nom}$, $I_{o\,nom}$	±0.6% $U_{o1,2\,nom}$
Voltage setting accuracy 3, 4	$U_{i\,nom}$, $I_{o\,nom}$	±1.5% $U_{o3,4\,nom}$
Worst case output voltage 1, 2	$U_{i\,min}$...$U_{i\,max}$, 0...$I_{o1,2\,max}$, $T_{C\,min}$...$T_{C\,max}$	±1.6% $U_{o\,nom}$
Minimum output current 1, 4	in parallel configuration not required	0 A
	in individual or series configuration	5% $I_{o1,4\,nom}$
Minimum output current 2, 3	in parallel configuration not required	0 A
	in individual or series configuration	5% $I_{o2,3\,nom}$
Load regulation output 4	$I_{o1,4\,min}$...$I_{o1,4\,max}$	typ. 100 mΩ • (I_{o1}...I_{o4})
Load regulation output 3	$I_{o2,3\,min}$...$I_{o2,3\,max}$	typ. 100 mΩ • (I_{o2}...I_{o3})
Output voltage switching noise	IEC/EN 61204, total, peak-peak	typ. 0.4% $U_{o\,nom}$
Common power limitation	(P_{o1} + P_{o4}) rectangular U/I characteristic	typ. 130% $P_{o\,max}$/2
	(P_{o2} + P_{o3}) rectangular U/I characteristic	typ. 130% $P_{o\,max}$/2

Protection

Input reverse polarity	built-in fuse	
Input undervoltage lockout		typ. 90% $U_{i\,min}$
Input overvoltage lockout		typ. 110% $U_{i\,max}$
Input transient protection	varistor	
Output	no-load, overload and short-circuit proof	
Output overvoltage	varistor	typ. 125% $U_{o\,nom}$
Overtemperature	switch-off with auto restart	T_C typ. 100°C

Control

Output voltage adjustment	output 1, 4	60/80...110% $U_{o\ nom}$
Inhibit on input side	TTL input, output(s) disabled if open circuit	
Status indication	LEDs: In OK, Out OK	
Output good signal (Out OK)	isolated open collector signal	

Safety

Approvals	EN 60950, UL 1950, CSA C22.2 No. 950	
Class of equipment		class I
Protection degree		IP 40
Electric strength test voltage	I/case, O/case, Out OK/case	1.5 kV AC
	I/O, Out OK/I, Out OK/O	4242 V DC / 3 kV AC
	O/O	500 V DC

EMC

Electrostatic discharge	IEC/EN 61000-4-2, level 4 (8/15 kV)	criterion B
Electromagnetic field	IEC/EN 61000-4-3, level 3 (10 V/m)	criterion A
Electr. fast transients/bursts	IEC/EN 61000-4-4, output/input, level 3/4 (2/4 kV)	criterion B
Surge	IEC/EN 61000-4-5, input, level 2/3 (1/2 kV)	criterion B
Conducted disturbances	IEC/EN 61000-4-6, level 2/3 (3/10 V)	criterion A
Electromagnetic emissions	CISPR 22/EN 55022, conducted	class B

Environmental

Operating ambient temperature	$U_{i\ nom}$, $P_{o\ nom}$, convection cooled	–25...71°C
Operating case temperature T_C	$U_{i\ nom}$, $P_{o\ nom}/P_{o\ max}$	–25...95°C
Storage temperature	non operational	–40...100°C
Damp heat	IEC/EN 60068-2-3, 93%, 40°C	56 days
Vibration, sinusoidal	IEC/EN 60068-2-6, 10...60/60...2000 Hz	0.35 mm/5 g_n
Shock	IEC/EN 60068-2-27, 11 ms	50 g_n
Bump	IEC/EN 60068-2-29, 11 ms	25 g_n
Random vibration	IEC/EN 60068-2-64, 20...500 Hz	4.9 $g_{n\ rms}$

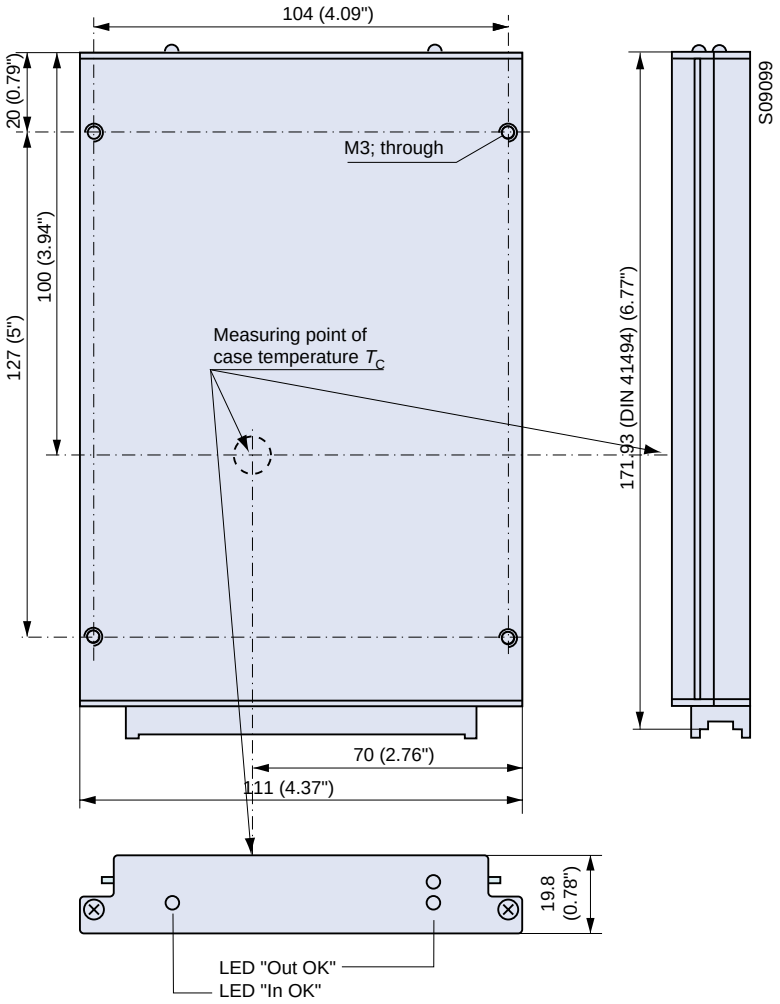
Options

Extended temperature range	–40...71°C, ambient, operating	-9
Out OK output	excludes option i	D
Current sharing		T
Inhibit on output side	excludes option D	i
Synchronisation		W
Heat Sink		B1

Mechanical data

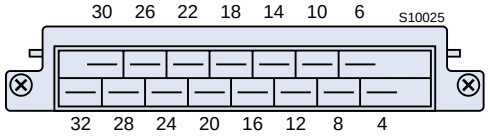
Tolerances ±0.3 mm (0.012") unless otherwise indicated.

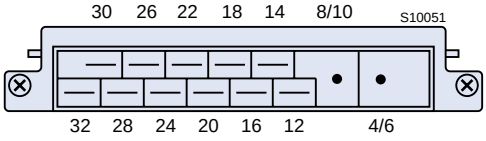
European Projection



Pin allocation

Pin	P 1000		P 2000		P 3000		P 4000	
4	Vo1+	Output 1	Vo1+	Output 1	Vo1+	Output 1	Vo1+	Output 1
6			Vo2+	Output 2	Vo2+	Output 2	Vo2+	Output 2
8	Vo1–	Output 1	Vo1–	Output 1	Vo1–	Output 1	Vo1–	Output 1
10			Vo2–	Output 2	Vo2–	Output 2	Vo2–	Output 2
12	S+	Sense	S1+	Sense 1	S1+	Sense 1	Vo4+	Output 4
14	S–	Sense	S1–	Sense 1	S1–	Sense 1	Vo4–	Output 4
16	R	Control of U_o	R1	Control of U_{o1}	R1	Control of U_{o1}	R1/4	Control of $U_{o1/4}$
			T1	Current sharing	T1	Current sharing		
18	T	Current sharing	S2+	Sense 2	Vo3+	Output 3	Vo3+	Output 3
20	n.c.	Not connected	S2–	Sense 2	Vo3+	Output 3	Vo3+	Output 3
22	Out OK+	Output good	Out OK+	Output good	Out OK+	Output good	Out OK+	Output good
	i+	Inhibit second.	i+	Inhibit second.	i+	Inhibit second.	i+	Inhibit second.
24	Out OK–	Output good	Out OK–	Output good	Out OK–	Output good	Out OK–	Output good
	i–	Inhibit second.	i–	Inhibit second.	i–	Inhibit second.	i–	Inhibit second.
26	⏚	Prot. ground	⏚	Prot. ground	⏚	Prot. ground	⏚	Prot. ground
28	i	Inhibit	i	Inhibit	i	Inhibit	i	Inhibit
	W	Synchronisat.	W	Synchronisat.	W	Synchronisat.	W	Synchronisat.
30	Vi+	Input	Vi+	Input	Vi+	Input	Vi+	Input
32	Vi–	Input	Vi–	Input	Vi–	Input	Vi–	Input





Accessories

Additional external heat sinks for operation above $P_{o\ nom}$ or $T_{A\ max}$
Front panels for 19" rack mounting in 3U or 6U configuration (Schroff/Intermas)
Mating H15 connectors with screw, solder, fast-on or press-fit terminals
Mechanical mounting supports for chassis, DIN-rail and PCB mounting