

Technical Specification

QUASAR 5-40 kVA

POWERTRONIX QUASAR 5-40 KVA

DT 0251 E00 TECHNICAL DATA

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General characteristics

Double conversion, digital controlled, high frequency transformer less design.

Internal battery

Data communication protocol featuring:

User friendly front panel with integrated EPO

Remote EPO available

RS232 9 pins D type connector

Software designed for most existing platforms (WINDOWS, NOVELL, UNIX, OS/2, MacOS)

Mechanical design according with POWERTRONIX style guidelines and featuring:

Bottom cable entry

Gladding for armoured cabling

No side access required

Input protection to IP20

Service access fully from the front

System data	5	10	15	20	25	30	40
System configuration	On line double conversion						
Nominal input voltage	3ph + N 380V to 415 Vac						
Input voltage range	300÷480 Vac (330V to 480Vac full charge capability)						
Nominal input frequency	50÷60Hz +/- 20%						
Nominal output voltage	380/400/415Vac adjustable						
Nominal output frequency	50/60 Hz						
Output voltage distortion (THD)							
linear load	< 3%						
non linear load at 100% load and crest factor 3:1	< 5%						
Output voltage stability	+/- 1%						
Output frequency regulation							
synchronization with mains	+/- 1%, +/- 4% user selectable						
free running	+/- 0.005%						
Output kVA	5	10	15	20	25	30	40
Output watts	4	8	12	16	20	24	32
Efficiency							
at 50% load	82	88	88	89	89	90	91
at 100% load	84	90	90	91	91	91	92
Losses with nominal load and charged battery	0.7	0.88	1.3	1.5	1.9	2.3	2.7
Autonomy time with internal battery	7-10 minutes						
Acceptable Overload							
Inverter	125% for 10 minutes, 150% for 10 seconds						
Static Bypass Switch	150% for 30 mins, 1000% for 100ms						
Permissible Inverter output voltage variation							
for bypass switching	+/- 15%						
Design standards	IEC 146-4, EN50091-1, IEC 950						
Dielectric withstand test for 60s	2.0kV						
Input protection	IP20 to IEC529, IEC 944						
Operating temperature	0 to 40°C						
Storage temperature	-20 to 70°C (excluding battery)						
Permissible relative humidity	< 95% UR (not condensing)						
Maximum altitude above sea level at full load	1000m						
RFI Suppression	EN50091-2 class A, class B optional IEC801-2, IEC801-3, IEC801-4						
Audible noise level at 1 metre	< 52 dBA						

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Rectifier and Battery Charger Data	5	10	15	20	25	30	40
Nominal input voltage	3ph + N 380V to 415 Vac						
Input voltage variation	330Vac to 480Vac						
Input frequency	50/60 Hz						
Input frequency range	40/70 Hz						
Input current total harmonic distortion	Standard < 30%						
	Optional < 10%						
Input power factor with any load and ac variation	standard 0.95						
Maximum input power with battery charging	8.7	12.8	17.5	22	26.6	31.2	40
Maximum input current with input voltage at 400Vac	12.5	18.5	25.3	31.7	38.4	45.0	57.8
Soft start	10 sec						
Battery charger output voltage							
Float charge	432 Vdc						
Boost charge	to suit battery type						
Battery charger voltage stability	+/- 1%						
Battery charger output voltage ripple (Vrms/Vb) x 100	< 1%						
Maximum battery recharging current	7	7	7	7	7	7	7
Maximum battery recharging current setting	1-3-5-7 selectable						
Battery charging characteristics	DIN41773						

Battery Data

Number of cells							
Lead acid maintenance free	198						
Lead acid open	198						
Ni Cd	Options available to suit customers requirements						
Boost charge voltage							
Lead acid open	Variable to suit battery option						
Ni Cd	Variable to suit battery option						
Permissible battery voltage range	3320-500Vdc						
Maximum battery discharging current (Vdc = 320 V nominal load)	15	27.7	41.6	54.9	68.6	82.4	108.6
Environmental temperature	Recommended 20°C						

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Inverter Data	5	10	15	20	25	30	40
Nominal input voltage	384 V (192 cells)						
Input voltage range	320-750 V						
Battery running down alarm voltage	Adjustable (350V suggested)						
Maximum input current	15	27.7	41.6	54.9	68.6	82.4	108.6
Nominal output current at rated load (400Vac)	7.2	14.4	21.6	28.9	36.0	43.3	57.7
Efficiency at 100% load	>94%						
Output voltage	380/400/415Vac adjustable						
Output total harmonic distortion							
linear load	< 3%						
non linear load at 100% load and crest factor 3:1	< 5%						
Output voltage adjustment range	360-415V						
Phase displacement							
balanced load	120° +/- 1%						
100% unbalanced load	120° +/- 3%						
Voltage tolerances							
Static balanced load	< 1%						
Static 50% unbalanced load	< 3%						
Static 100% unbalanced load	< 5%						
Dynamic 50% load step	< 3%						
Dynamic 100% load step	< 4%						
Voltage transient recovery time	<30ms RMS						
Short circuit current	300% of nominal current for <3s						
Inverter synchronizatin frequency range	1-4% adjustable						
Max frequency variation during synchronization	< 1Hz/s						

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By pass Switch Data	5	10	15	20	25	30	40
Nominal input/output voltage 3ph + N	380/400/415Vac						
Voltage tolerance	+/- 10% adjustable						
Overload	1.5In for 30 mins, 10In for 100ms						
Maximum switching time							
Inverter - Bypass	< 1ms						
Overload or manual command	0 ms						
Bypass - Inverter automatic retransfer	0 ms						

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Options

Battery cabinet	Matching in height, depth and styling to provide 30 minutes and 1 hour autonomy time
Optocoupler Card	
Optocoupler dry contacts outgoing on Db9	24Vdc/100mA Mains Present Inverter Run Battery prealarm By-Pass ON RS232 Serial Protocol
Relays Card	
Relays dry contacts outgoing on Db9	250Vac/10A Mains Present Inverter Run Battery prealarm By-Pass ON RS232 Serial Protocol Win NT Clean Contact Common Alarm E.P.O contact.
Terminal Blocks ingoing	<i>Unix-Windows-OS2-Novell-MacOS Supported</i>
UPS Management Software	Motorola MC68332 technical detail will be available
Microprocessor Card	
External maintenance bypass switch	
Output isolation transformer	
RS232 Interface	
Led Remote Panel	
Modem board	