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Datasheet VP600-18W140-TR

Art.-No: VP600-18W140-6C.1.20.11.00

Discontinued

VP600 - Expert Inverters

Bidirectional inverter 78 – 1560 kVA peak power

- Application software can be extended
- Protection of your application know-how
- Bidirectional without switchover pauses

Traction

These products from the VP600 product range is optimized for commercial vehicle traction drives.

- Optional real-time PLC
- Control modules for all motor topologies
- Field weakening for PM motors with buried magnets and also asynchronous motors
- Boost function for more torque from standstill

ARADEX is your partner for exceptional solutions in electric drive technology.

For reference reports go to:
www.aradex.com/en/electric-mobility



General	
product name	VP600-18W140-TR
Article no.	VP600-18W140-6C.1.20.11.00
product family	VP600
product description	

Product overview	
Article no.	VP600-18W140-6C.1.20.11.00
Name	VP600-18W140-TR

Size	
Width (basic housing)	263 mm
Depth (basic housing)	395 mm
Weight	18 kg
Height with connectors	119 mm
Width with connectors	263 mm
Depth with connectors	426 mm
Height (basic housing)	119 mm

Technical data	
Continuous current AC ¹⁾	160 A _{rms}
Peak current AC, for 10min ³⁾	250 A _{rms}
Peak current AC, for 10sec ³⁾	400 A _{rms}
Peak current AC for 60sec ³⁾	300 A _{rms}
Max. electrical rotary frequency	599 Hz
Continuous power ⁴⁾	146 kVA
Max. continuous power dissipation	2 kW
Peak power for 10sec	320 kVA
Max. PWM frequency	10 kHz
Min. PWM frequency	2 kHz
Integrated DC link capacity	300 µF
Recommended voltage DC-link	650 V
DC-link shutdown threshold level 1	800 V
Max. voltage DC-link [V DC]	770 V
DC-link shutdown threshold level 2	820 V
Min. voltage DC-link [V DC]	30 V
DC Controller voltage max.	28 V
DC Controller voltage min.	9 V

Technical data	
Technical notes	1) Continuous current at 650VDC, 4kHz PWM frequency, 15l/min coolant flow rate at 65 °C and 45 °C ambient temperature 2) Continuous current at 750VDC, 4kHz PWM frequency, 15l/min coolant flow rate at 65 °C and 45 °C ambient temperature 3) Peak current and peak power at 650VDC, 2.5kHz PWM frequency, 15l/min coolant flow rate at 65 °C and 45 °C ambient temperature 4) Continuous power at 750VDC, 4kHz PWM frequency, 15l/min coolant flow rate at 65 °C and 45 °C ambient temperature *) Optionally available

Interfaces	
Number of NTC (PTC) inputs	3
Analogue inputs	2
Digital inputs	2
Digital outputs (each 0,2A)	2
Encoder inputs with digital absolute value	yes
Communication bus	<ul style="list-style-type: none"> CAN
Resolver inputs	1
Encoder inputs	1
Number of PT100 inputs	2

Cooling	
Max. coolant throughput	25 l / min
Liquid cooling	yes
Cooling medium	Water + glycol (50:50)
Min. coolant throughput	15 l / min
Pressure difference typical	0.3 bar
Max. coolant pressure	2 bar
Min. coolant pressure	0.5 bar
Max. coolant temperature without derating	65 °C
Max. coolant temperature with derating	75 °C

Environment	
Polution degree according to DIN EN 6 1800	2, inside space
Humidity according to IEC 60068-2-35	max. 90%, noncondensing
Min. ambient temperature in operation	-25 °C
Max. ambient temperature in operation	75 °C
Max. ambient temperature in operation with derating	75 °C
Protection class according to EN 60529	IP65

Environment	
Max. altitude of site above sea level	2000 m

Approval marks	
Approval marks	Federal Office for Motor Traffic (KBA) E1 10 R - 058088 in combination with VM600M 18W0115-RH20029 (E1 85 R - 003766)

Connectors	Description	Function

Pin settings

ST1

Properties	
Plug type	AMPSEAL HDR SNAP IN W/G 23pol.
Plug design	Gehäusevariante WF

Pin no.	Description	Function	I/O
1	KL 31	Logic supply voltage, DC GND	Input
2	KL 30b	Logic supply voltage, DC +	Input
3	Enable	Enabling power Output	Input
4	Digi Out1	Digital output 1	Output
5	Digi Out2	Digital output 2	Output
6	NTC1	NTC temperature sensor no.1	Input
7	NTC2	NTC temperature sensor no.2	Input
8	AN_I1+	Analog current input no.1 +	Input
9	CAN_L	Can Bus low	bidirectional
10	CAN_H	Can Bus high	bidirectional
11	COM1_TxD	RS232 Interface for firmware updates TxD	bidirectional
12	COM1_rxD	RS232 Interface for firmware updates RxD	bidirectional
13	EN_CONF#	Enable / Allow firmware update	input
14	CAN_GND	Can Bus Ground	bidirectional
15	COM_GND	Rs232 Ground	bidirectional
16	Digi_In1	Digital Input no. 1	Input
17	Digi_In2	Digital Input no. 2	Input
18	NTC_GND	Ground for NTC temperature	Input
19	Interlock_In	NC	

Pin no.	Description	Function	I/O
20	Interlock_Out	NC	
21	An_U1+	Analog voltage input no. 1 +	Input
22	An_U1-	Analog voltage input no. 1 -	Input
23	An_I1-	Analog current input no. 1 -	Input

ST2

Description	Resolver - only for devices with DriveMain Version 2.x
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Properties	
Plug code	Center position
Plug type	A ST A 035
Plug design	17 pol, Typ "P"
Note	Use mating connector in orientation "E"

pin-no.	operation	type	I/O
1	Resolver P+	female	
2	Resolver P-	female	
3	Resolver A+	female	
4	Resolver A-	female	
5	Resolver B+	female	
6	Resolver B-	female	
7	NC		
8	NC		
9	NC		
10	NC		
11	NC		
12	NC		
13	NC		
14	PT100-1	female	
15	PT100-1 GND	female	
16	NTC-3	female	
17	NTC-3 GND	female	

ST3

Description

Incremental encoder + absolute value digital or zero pulse

Properties	
Plug type	A ST A 035
Plug design	17 poles, type "P"

pin-no.	operation	type	I/O
1	Clock+	female	
2	Clock-	female	
3	Z+ or Data+	female	
4	Z- or Data-	female	
5	NC		
6	NC		
7	GND	female	
8	+5V	female	
9	NC		
10	C	female	
11	/C	female	
12	D	female	
13	/D	female	
14	PT100-2	female	
15	PT100-2 GND	female	
16	NTC-4	female	
17	NTC-4 GND	female	