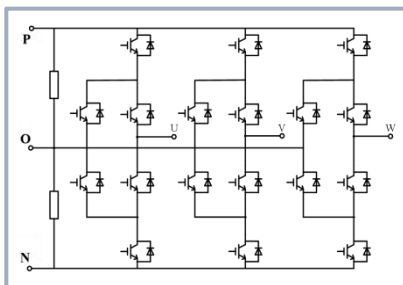
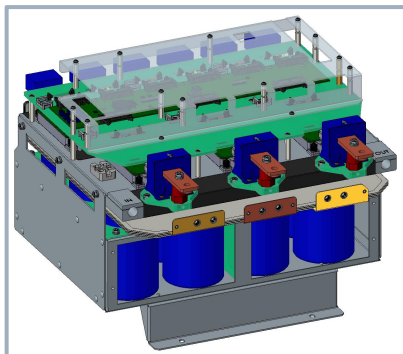


FPS036TA121XWP001



Ordering No.

- FPS036TA121XWP001

Features

- 3-level ANPC
- 3-phase
- Liquid cooling

Typical Applications

- ESS converter

Symbol	Description	min	typ	max	Unit
Electrical Characteristics					
V_{DC}	Rated Full DC bus voltage		1600		V
V_{AC}	Rated AC voltage		750		V_{RMS}
I_{AC}	Rated AC current		350		A_{RMS}
f_{sw}	Switching frequency		3.5		kHz
PF	Power factor	-1.0		1.0	
P_{LOSS}	Stack power loss		4		kW
V_{ISOL}	Insulation voltage		2.5		kV_{RMS}
IGBT module	Package	¹ 1200V/750A Econo DUAL™3			

Note1: Taking Infineon modules as an example, modules with compatible packages are available for use.

Symbol	min	typ	max	Unit
Environmental Data				
Liquid volume $\Delta V / \Delta t$		10		L/min
Liquid pressure Δp		0.4		bar
Inlet temperature T_{INLET}		50		°C
Installation altitude	0		3000	m
Protection degree, According to EN 50178	IP00			
Pollution degree, According to IEC 60529	3			
Storage temperature	-45		70	°C
Operational ambient temperature	-30		60	°C
Relative humidity	0		95	%

Mechanical Data				
Dimensions, Length × width × height	424*324.5*451			mm
Weight		46		kg
DC terminal mounting torque M_{DC}		24		Nm
AC terminal mounting torque M_{AC}		55		Nm

Controller Interface

Symbol	Conditions	min	typ	max	Unit
Auxiliary power supply voltage		23.5	24	24.5	V
Auxiliary power requirement			35		W
Auxiliary power supply interface type		24 pin header, 16 pin header			
Auxiliary power supply undervoltage threshold			12		V
PWM signal high level threshold			3.2		V
PWM signal low level threshold			1.1		V
Output voltage corresponding to NTC	$T_{NTC} = 25^{\circ}\text{C}$		3.3		V
Fault output current capability	Fault condition			10	mA
Fault hold time			10		ms

Controller Signal Connector Pin Definitions (A)

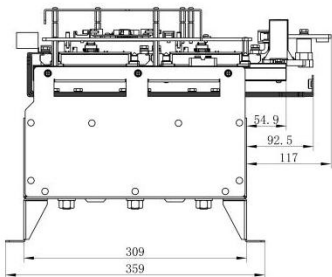
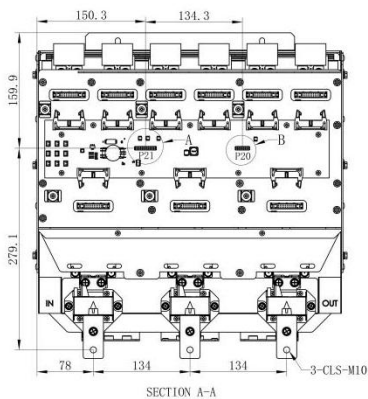
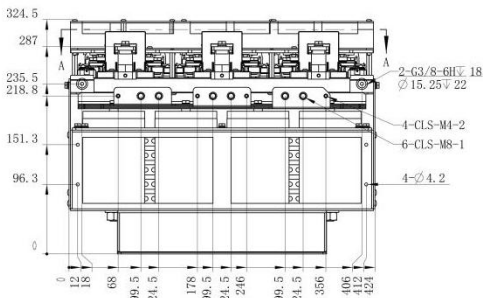
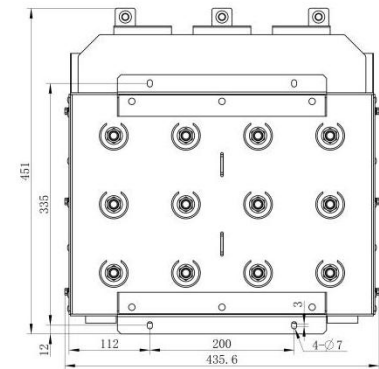
Pin	Name	Function	Pin	Name	Function
1	PWMA_T1	Phase A T1 PWM driving signal (15V valid)	13	+24V_V _{in}	Auxiliary power supply voltage input
2	PWMA_T5	Phase A T5 PWM driving signal (15V valid)	14	+24V_V _{in}	Auxiliary power supply voltage input
3	PWMA_T2	Phase A T2 PWM driving signal (15V valid)	15	GND	Primary side reference ground
4	PWMA_T4	Phase A T4 PWM driving signal (15V valid)	16	GND	Primary side reference ground
5	PWMA_T3	Phase A T3 PWM driving signal (15V valid)	17	FAULTB	Phase B fault output
6	PWMA_T6	Phase A T6 PWM driving signal (15V valid)	18	GND	Primary side reference ground
7	FAULTA	Phase A fault output	19	PWMB_T3	Phase B T3 PWM driving signal (15V valid)
8	GND	Primary side reference ground	20	PWMB_T1	Phase B T1 PWM driving signal (15V valid)
9	GND	Primary side reference ground	21	PWMB_T2	Phase B T2 PWM driving signal (15V valid)
10	GND	Primary side reference ground	22	PWMB_T5	Phase B T5 PWM driving signal (15V valid)
11	+24V_V _{in}	Auxiliary power supply voltage input	23	PWMB_T4	Phase B T4 PWM driving signal (15V valid)
12	+24V_V _{in}	Auxiliary power supply voltage input	24	PWMB_T6	Phase B T6 PWM driving signal (15V valid)

Controller Signal Connector Pin Definitions (B)

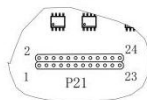
1	V _{out_NTC}	NTC sampling output value (maximum temperature)	9	FAULTC	Phase C fault output (high level 15V normal)
2	+24V_V _{in}	Auxiliary power supply voltage	10	NC	
3	GND	Primary side reference ground	11	PWMC_T2	Phase C T2 PWM driving signal (15V valid)
4	GND	Primary side reference ground	12	PWMC_T5	Phase C T5 PWM driving signal (15V valid)
5	GND	Primary side reference ground	13	PWMC_T3	Phase C T3 PWM driving signal (15V valid)
6	GND	Primary side reference ground	14	PWMC_T1	Phase C T1 PWM driving signal (15V valid)
7	+24V_V _{in}	Auxiliary power supply voltage input	15	PWMC_T4	Phase C T4 PWM driving signal (15V valid)
8	+24V_V _{in}	Auxiliary power supply voltage input	16	PWMC_T6	Phase C T6 PWM driving signal (15V valid)

Dimensions

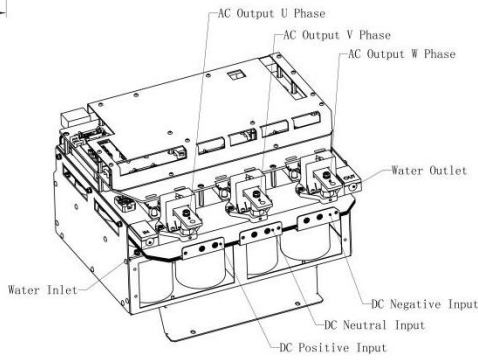
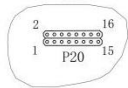
标 记	更改描述	更改日期	签 字



局部放大图 A
1:1



局部放大图 B
1:1



SCALE 1:5

物料编码:				第一角投影					
									
设 计			项 目			名称	Module 424*324.5*451		
审 核						图 框	A2	比 例	1:4
校 对			材 料			单 位	重 量	版 本	页 码
会 签							约46Kg	V1.0	1 / 1
标准化			表 面						
批 准			处 理						

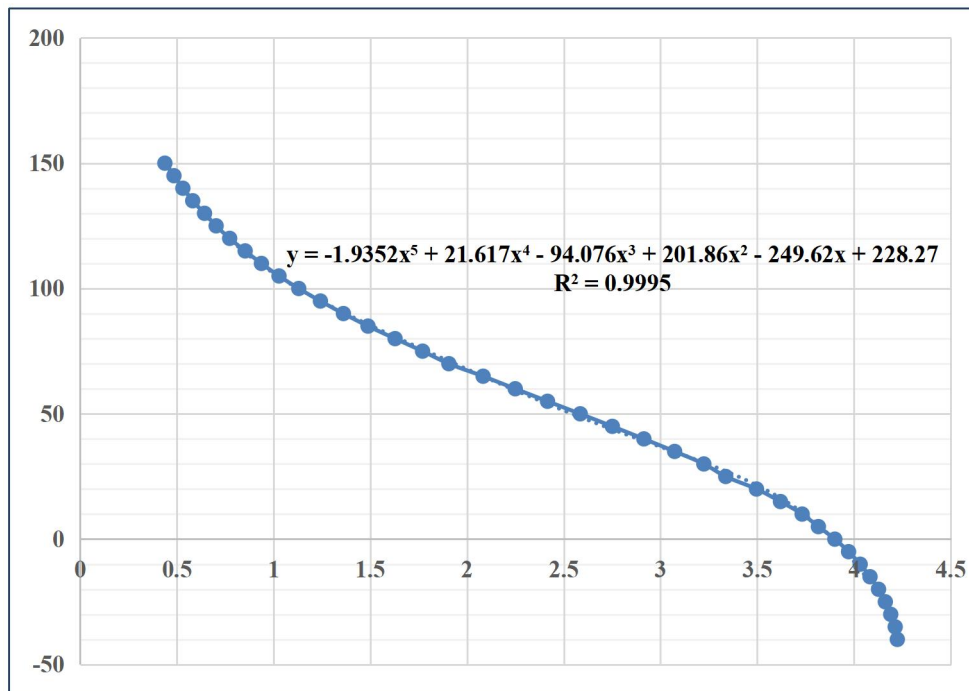


Fig.1 Temperature versus output voltage curve

Safety instructions

1. The data contained in this product datasheet is intended for technically trained engineers only. The suitability of this product for your specific application scenario and the completeness of the information provided must be fully evaluated before implementation.
2. This product must not be operated beyond the absolute maximum ratings listed in this specification under any circumstances. Operating the device at multiple maximum rating thresholds simultaneously is strictly prohibited.
3. External cooling and dissipation requirements indicated in this specification must be strictly enforced to prevent performance derating or catastrophic thermal failure.
4. For applications in safety-critical systems (such as aviation, medical, or life-support systems), please contact Firstack to establish dedicated quality agreements and risk assessments before ordering.

Legal disclaimer

This manual gives a detailed introduction about the product, but cannot promise to provide specific parameters. No warranty or guarantee, express or implied, is given herein as to the delivery, performance or applicability of the product.

Firstack reserves the right to modify technical data and product specifications at any time without prior notice. Firstack's general payment terms and conditions apply.

Tel: +86-571 8817 2737

Fax: +86-571 8817 3973

Website: www.firstack.com

Email: fsales@firstack.com

Address: 4-5/F, Building/5, Xizi Wisdom Park,
No.1279 Tongxie Road, Hangzhou, China