

AC/DC power supplies

KWant Family

KWant3000 3 phase NEW, 3000 W



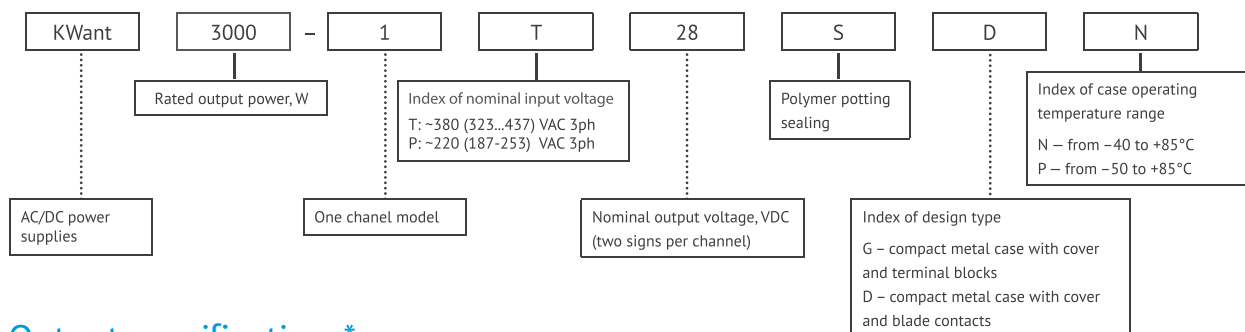
Basic specifications

Power	3000 W
.....	12000 W impulse mode
Output current	up to 125 A
Input voltage	~380 (323...437) VAC 3ph
.....	~220 (187-253) VAC 3ph
Output voltage	=28 VDC, =48 VDC, =60 VDC
Efficiency	93%
Case operating temperature	-40...+85 °C; -50...+85 °C
Dimensions	174×284×54 mm
Warranty	2 years

Advantages

- ◀ MIL-STD-461E without external components
- ◀ MIL-STD-810G
- ◀ Parallel and series operation
- ◀ Stand-by power supply
- ◀ 3 ph active PFC
- ◀ RS-485 – digital control and monitor interface
- ◀ Current source mode

Ordering information



Output specifications*

Parameter		Value		
Model		KWant3000-1T28-SXX	KWant3000-1T48-SXX	KWant3000-1T60-SXX
Nominal output voltage, VDC		28	48	60
Rated output power, W		3000	3000	3000 (12 000)
Output voltage adjustment range, MBCB	by built-in trim resistor	24...30 VDC	43...52 VDC	54...66 VDC
	RS485	-50...+10%	-50...+10%	-50...+10%
Efficiency		≥91		
Rated output current, A		111	63	50
Ripple and noise (peak-to-peak)		<2% Uout nom		
Line and load regulation		max 2%		
Start-up time, s		2		
Parallel operation		up to 20, redundancy, and boost of power		
Series operation		yes, up to 400 V (using ext. diodes)		
Remote on/off		yes		
Maximum load capacity		not limited		
External synchronization		480...515 kHz, pulse duration >250 ns, 4...6 V		

Input specifications*

Parameter		Value
Input voltage range, VAC*	T	323...437 VAC 3ph
	P	187...253** VAC 3ph
Transient deviation range, VAC	T	~304...456
	P	~176...264
Transient time		1 s
Mains frequency range, Hz		47-660
Consumed current, A	T	5
	P	8,4
Power factor corrector		+
Power factor		0.99
Inrush current		20 A 10 ms

* All specifications are valid for normal climatic conditions (ambient temp. +15...+35°C; relative humidity 45...80%; air pressure 8.6*10⁴...10.6*10⁴ Pa), Uin. nom., Iout. nom., unless otherwise noted.

**At input voltages in the range of 187...220 V there is a decrease in the output power.

Protections

Type of protection		Value
Short-circuit protection*		Vertical current, shutdown below 20 V for Uout=60 V and 27 V; 14.5 V for Uout=48 V
Overload protection		$P_{max} < 1.8 P_{nom}$
Overvoltage protection level*		$< 125\% U_{out nom.}$
Overheat protection		triggers at case temperature $> 85^{\circ}\text{C}$
Voltage range of the supply network	Software: T P	305 V...460 V 177 V...270 V
	Varistor	$> 465\text{ V}$

Output specifications**

Parameter		Value
Type of connection	standart case	screw terminals or blade contacts
	milled metal case	Amphenol
Derating		60 W/ $^{\circ}\text{C}$ at case $t^{\circ} > 60^{\circ}\text{C}$
Protection level		IP20
Case temperature, operating	«N»	$-40...+85^{\circ}\text{C}$
	«P»	$-50...+85^{\circ}\text{C}$
Case temperature, storage		$-60...+70^{\circ}\text{C}$
Humidity		98% / 35°C
Isolation voltage	in /case	$\sim 1500\text{ VAC}$
	in /out	$\sim 1500\text{ VAC}$
	out /case	$\sim 500\text{ VAC}$
Isolation resistance @ 500 VDC		$\geq 20\text{ MOhm min}$
Cooling		conductive
Environmental influence standards		MIL-STD-461E
Typical MTBF		3 000 000 Hrs
Case material		metal
Dimensions, mm	standart case	284×174×54
	milled metal case	325×205×61
Weight, kg		≤ 3.8
Warranty		2 years

Digital interface

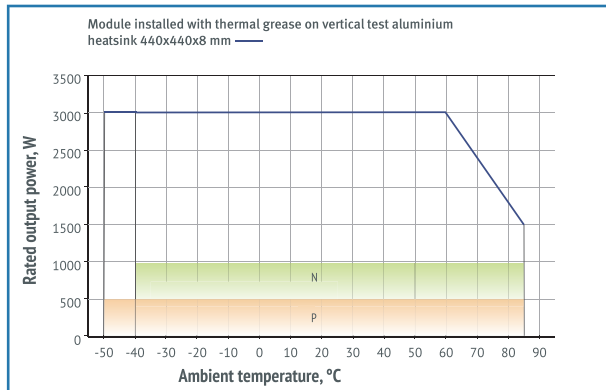
Control interface	RS-485
Serial communications protocol	MODBUS RTU
Number of units, connected to RS-485	up to 32 pcs
Control device	PC with WIN XP, 7, 8, 10

* Parameters are stated for the information purposes and could not be used at long term work, exceeding maximum output current, operating outside of a working temperatures range or when output voltage is over the range of adjustment.

** All specifications are valid for normal climatic conditions, Uin. nom., Iout. nom., unless otherwise noted.

Derating

vs Temperature

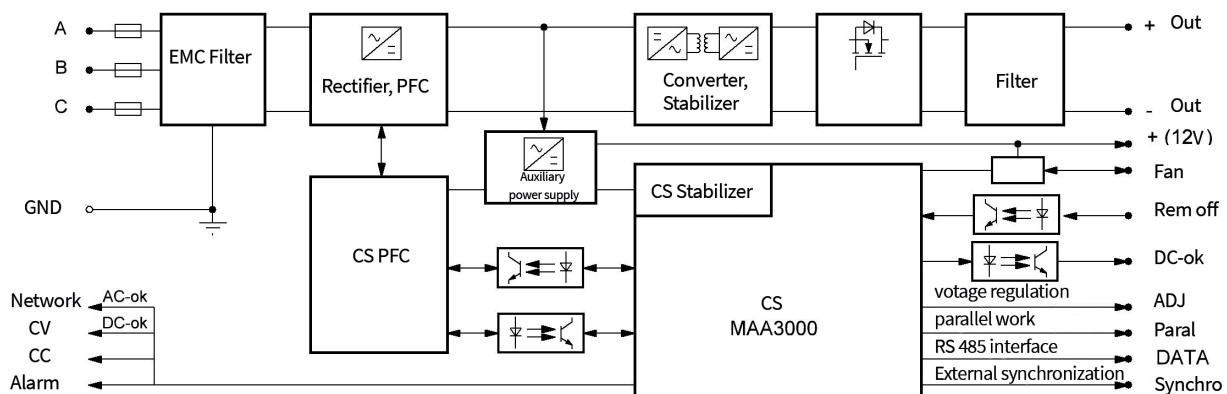


Decreasing parts of the dashed and dash-dotted curves correspond to the maximum case temperature (+85°C for models with index "N" and "P"). Output power must not exceed the values limited by curve for a given ambient temperature.

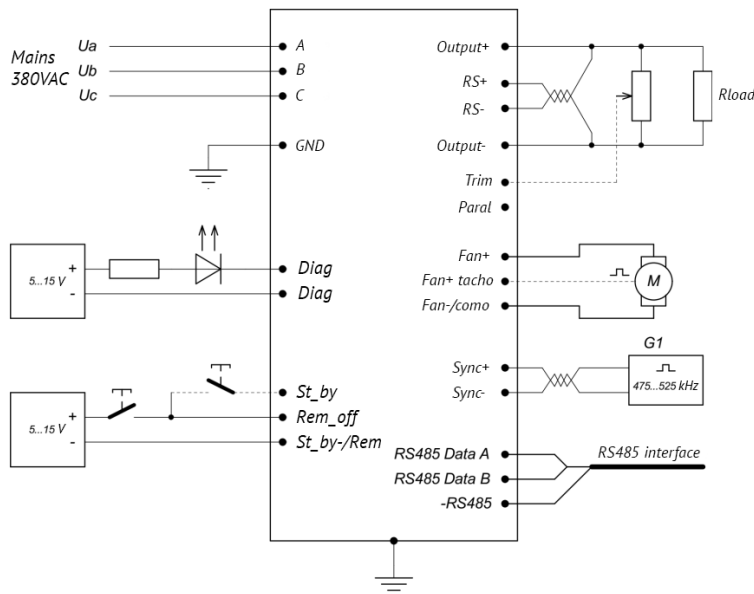
Modules can be used without the heatsink only on condition of installation with thermal grease on heat-distribution baseplate with length and width not less than case's and with thickness not less than 8 mm.

Block diagram

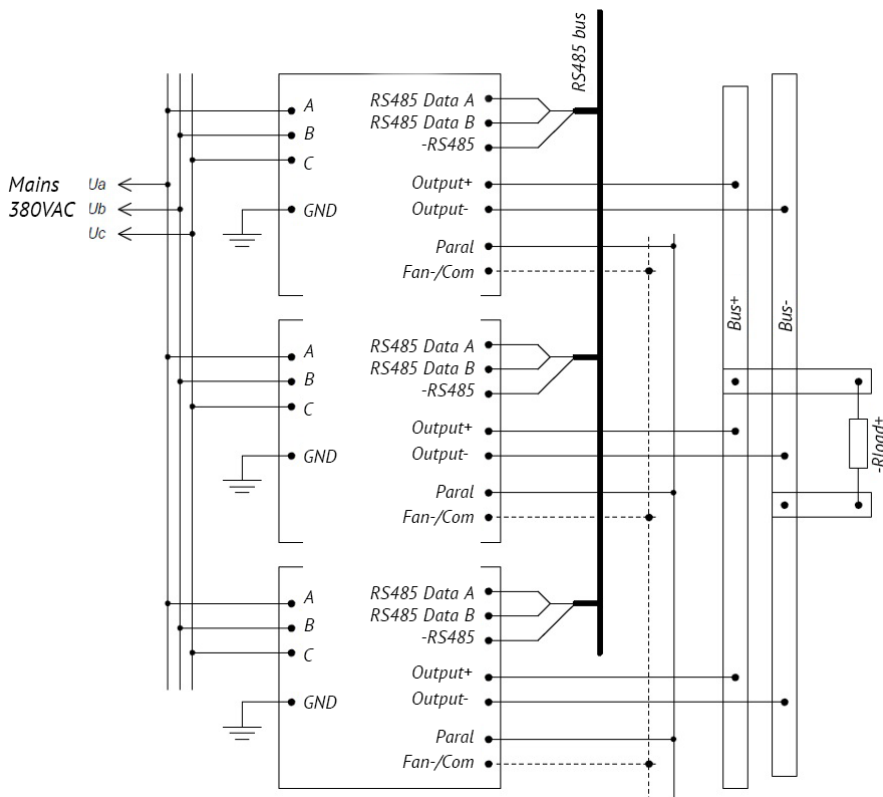
MAA3000-1TXX



Typical connection

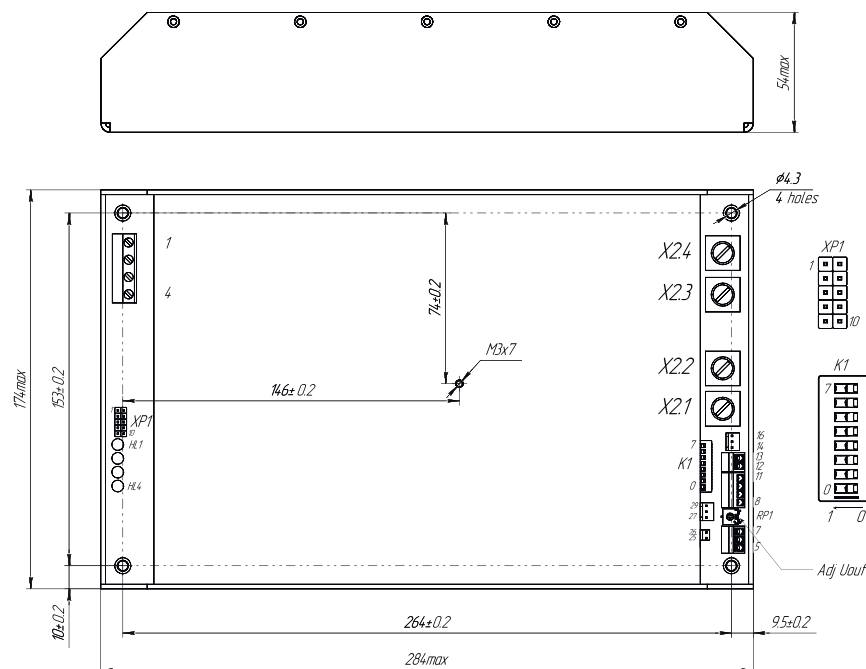


Parallel operation



Dimensions

Single-channel design with terminal blocks



LEDs assignment

HL1	HL2	HL3	HL4
AC-ok	Voltage src mode	Current src mode	Alarm

Ext LEDs

1	3	5	7	9
AC-ok	Voltage src mode	Current src mode	Alarm	n/a
2	4	6	8	10
LEDs+				n/a

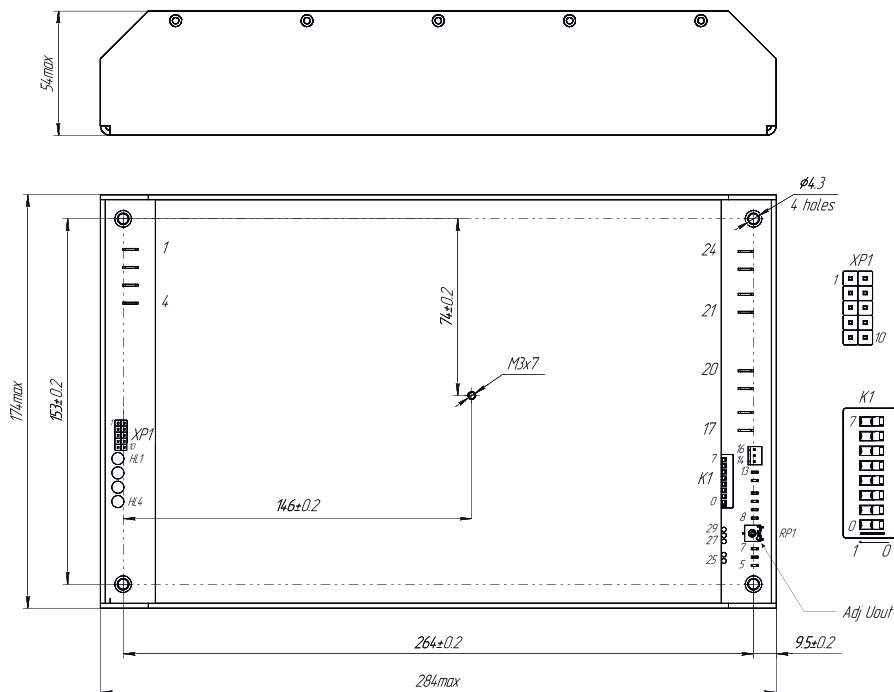
SW K1 - Addr0...Addr7
module nr set.

X1				X2.1	X2.2	X2.3	X2.4	X3			X4		
1	2	3	4	Output+		Output-		1	2	3	1	2	3
A	B	C	GND					Fan+	Fan-	-	-Rem off	+Rem off	TRIM

X5				X6							
1	2	3	4	1	2	25	26	27	28	29	
+RS	-RS	Paral	REG	DC-ok+	DC-ok-	Synchro-	Synchro+	RS485_com	RS485 Data-B	RS485 Data-A	

Dimensions

Single-channel design with blade contacts



LEDs assignment

HL1	HL2	HL3	HL4
AC-ok	Voltage src mode	Current src mode	Alarm

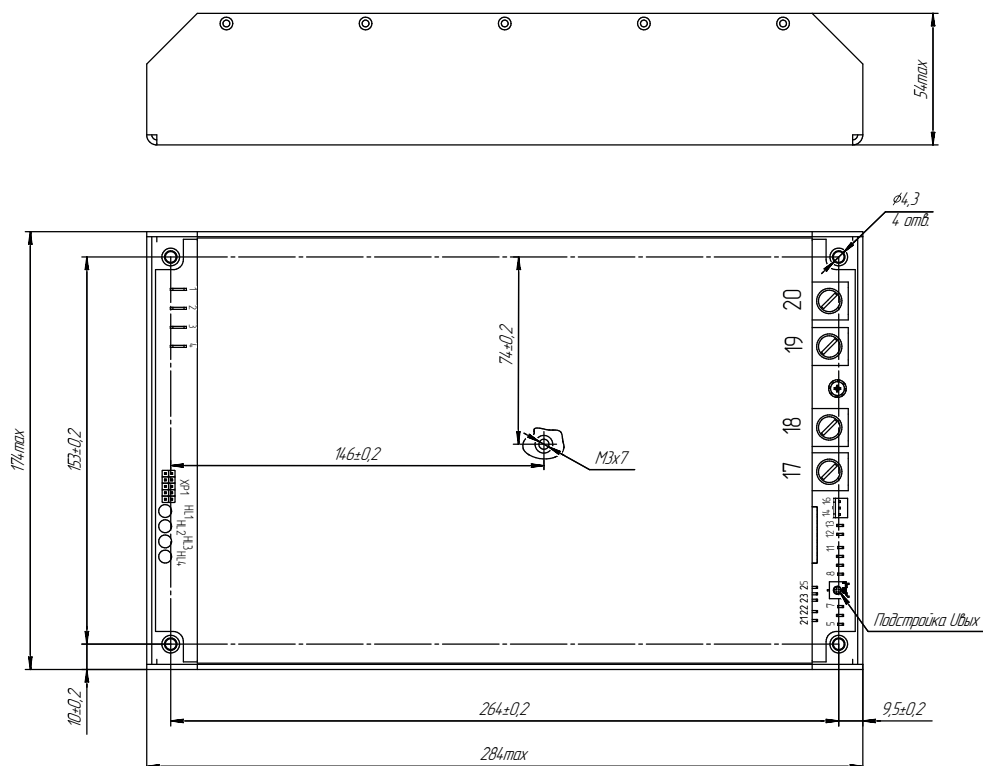
Ext LEDs

1	3	5	7	9
AC-ok	Voltage src mode	Current src mode	Alarm	n/a
2	4	6	8	10
LEDs+				n/a

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	B	C	GND	-Rem off	+Rem off	TRIM	+RS	-RS	Paral	-	DC-ok+	DC-ok-	Fan+	Fan-
16		17-20		21-24		25		26		27	28		29	
Fan tach		Output+		Output-		Synchro+		Synchro-		RS485_com	RS485 Data-B		RS485 Data-A	

Dimensions

Single-channel design with screw terminals



LEDs assignment

HL1	HL2	HL3	HL4
AC-ok	Voltage src mode	Current src mode	Alarm

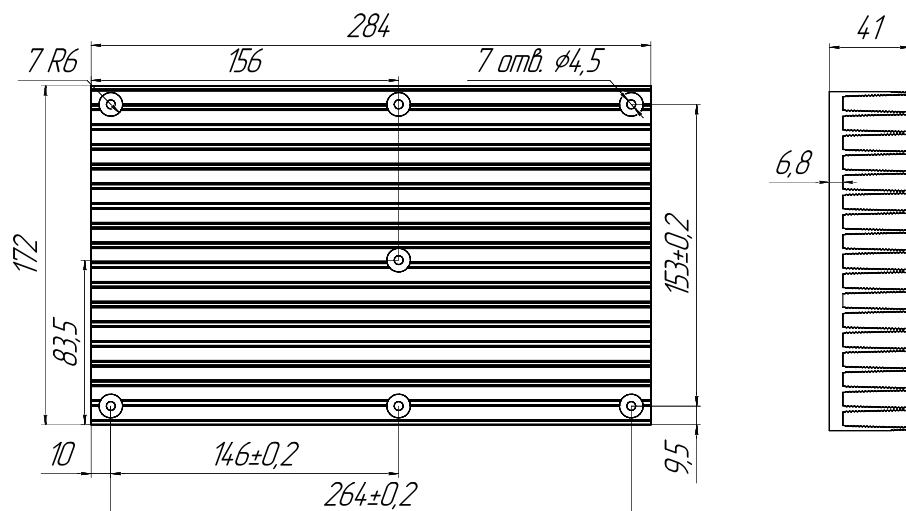
Ext LEDs

1	3	5	7	9
AC-ok	Voltage src mode	Current src mode	Alarm	n/a
2	4	6	8	10
LEDs+				n/a

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	B	C	GND	-Rem off	+Rem off	TRIM	+RS	-RS	Paral	-	DC-ok+	DC-ok-	Fan+	Fan-

16	17-18	19-20	21	22	23	24	25
Fan tach	Output+	Output-	Synchro+	Synchro-	RS485_com	RS485 Data-B	RS485 Data-A

Dimensional drawing of the radiator



This datasheet is valid for the following units: KWant3000-1T28-SXX; KWant3000-1T60-SXX, KWant3000-1P28-SXX; KWant3000-1P60-SXX