

# Energy 1200 Installation Primary Switched Power Supply 1200W

## EXWUID 52.30 programmable V/I/P

### Digital Programming



### Ordering Information

Type	Output	Input Voltage	Housing Dimensions see drawing	Article No.*1
<b>EXWUID 52.30</b>	V = 0 - 52V* I = 0 - 30A* P = 0 - 1200W*	100-240Vac	406x150x108mm	<b>752-002-00</b>

\* Delivery condition, Local mode

\*1 Housing inside chrome plated, housing outside anodized

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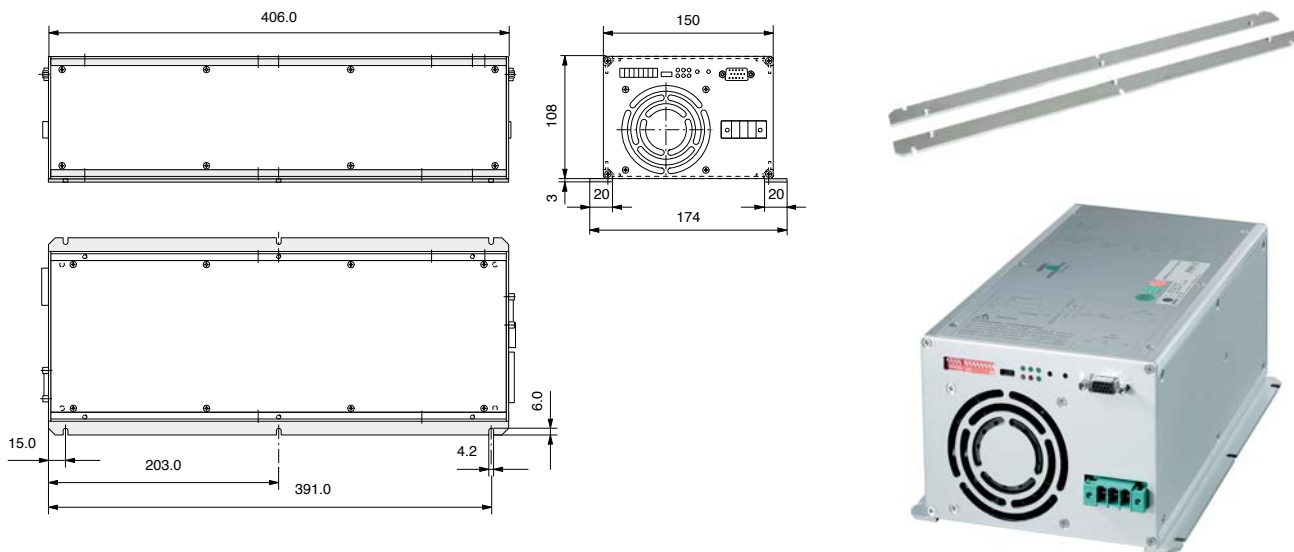
photo for example

**Accessories**

			Article-No.
<b>Mains connection</b>	<b>X1</b>	Connector - PC 4/3-ST-7.62	
		screwable connections 3 pole, AWG 12-24	<b>400-116-00</b>
			<b>400-056-00</b>
<b>DC-Output connection</b>	<b>X2</b>	Connector - IPC 16/3-STF-10.16	<b>400-123-00</b>
		screwable connections 3 pole, AWG 6-18	
<b>Sense lead connection</b>	<b>X3</b>	Connector - IC 2.5/2-STF-5.08	<b>400-119-00</b>
		screwable connections 2 pole, AWG 24-14	
<b>I/O-Signal connection</b>	<b>X4</b>	Connector D-SUB, 15 pole Male High Density	<b>400-106-00</b>
		solderable connections until AWG 22	
<b>Loadshare connection</b>	<b>X5</b>	Connector - MC 1.5/3-STF-3.81	<b>400-120-00</b>
		screwable connections 3 pole, AWG 16-26	
<b>CAN connection</b>	<b>X6</b>	Connector RJ45 (2x)	<b>400-104-00</b>
		insulation-displacement terminal contacts, AWG 22-26	
<b>RS232 connection</b>	<b>X7</b>	Connector RJ45 (2x)	<b>400-104-00</b>
		insulation-displacement terminal contacts, AWG 22-26	

Type	Article No.	Article No. mounted on device
<b>Kit 02</b>	<b>402-116-00</b>	<b>402-116-10</b>
Kit consisting of:	2 x mounting strip 6 x special screw M4 x 6	

Installation device for example with mounting strips



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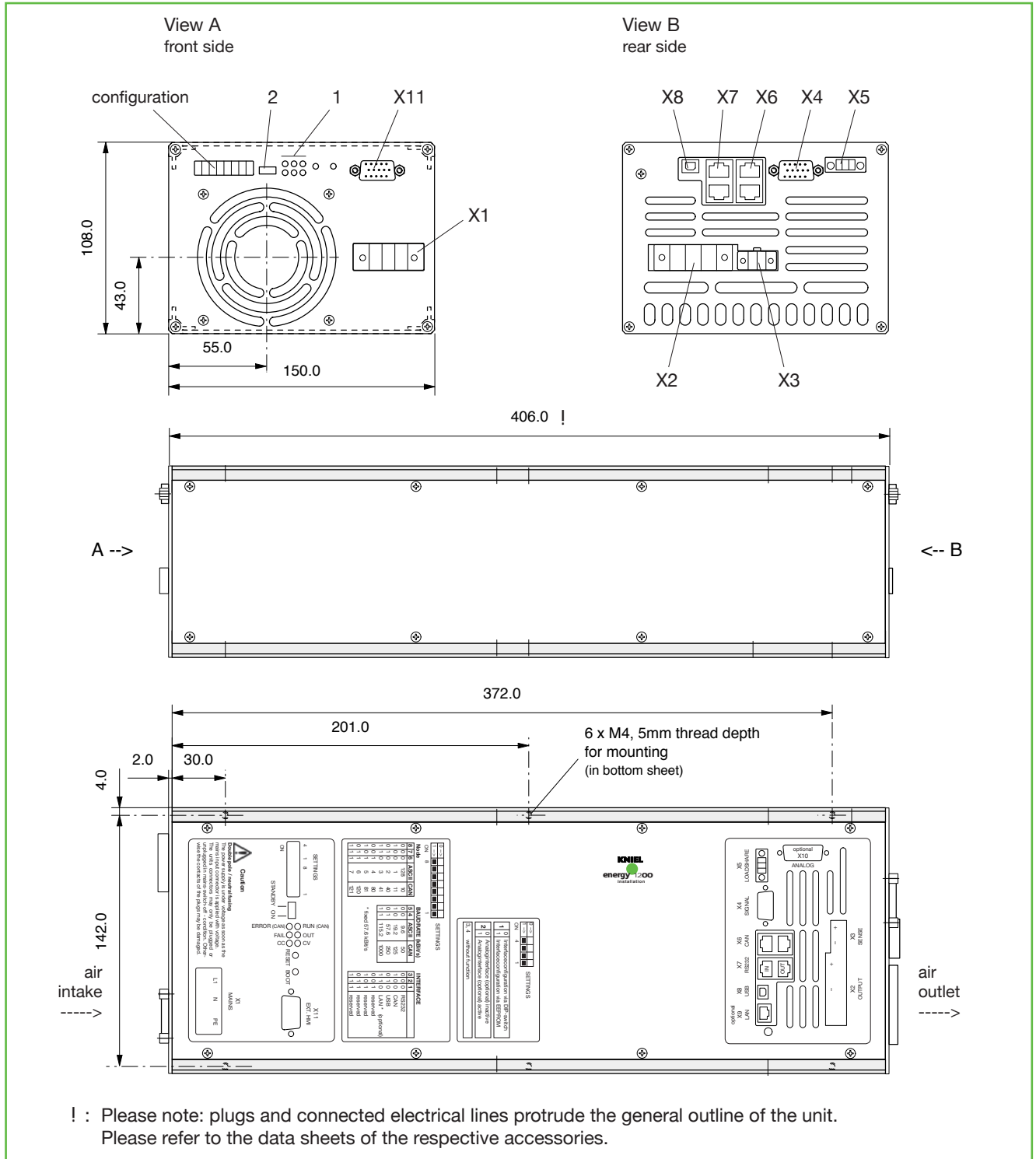
**EXWUID 52.30** programmable V/I/P

Digital Programming



## Dimensions in mm

- |                            |                            |                            |                         |
|----------------------------|----------------------------|----------------------------|-------------------------|
| X1 = Mains connection      | X4 = I/O-Signal connection | X7 = RS232 connection (2x) | 1 = LEDs                |
| X2 = DC-Output connection  | X5 = Loadshare connection  | X8 = USB connection        | 2 = Standby/on - switch |
| X3 = Sense lead connection | X6 = CAN connection (2x)   | X11 = Ext. HMI             |                         |



**Technical Data** (Guaranteed values after a warm-up period of approx. 15 min. at nominal load, measured at the unit's output)

Type	52.30		
Output Voltage*	[Vdc]	0 - 52	
Output Current*	[A]	0 - 30	
Output Power*	[kW]	0 - 1.2*1	
Type of Regulation	primary switched		
Efficiency	[%]	≥ 87	
<b>Static Voltage Regulation</b>			
Load Change 0... 100%	[mV]	≤ 50	
Input Voltage Change (90–264V)	[mV]	≤ 15	
<b>Current Regulation</b>			
Load Change 0... 100% R <sub>NOM</sub>	[mA]	≤ 60	
Input Voltage Change (90–264V)	[mA]	≤ 15	
<b>Power Regulation</b>			
Load Change inside of V <sub>max</sub> and I <sub>max</sub>	[W]	≤ 10	
Input Voltage Change (90–264V)	[W]	≤ 5	
<b>Dynamic Voltage Regulation</b>			
Control Deviation			
Δ I <sub>O</sub> = 60... 90% I <sub>NOM</sub>	[mV]	≤ 300	
Load Current Change dI <sub>O</sub> /dt	[A/μs]	0.1	
Control Time for			
Δ I <sub>O</sub> = 60... 90% I <sub>NOM</sub>	[ms]	≤ 0.8	
<b>Discharge Circuit</b>			
Continuance Power (tol.±5%)	[W]	80	
Peak Power (tol.±5%)	[W] / [ms]	400 / 300	
<b>Programming Times V</b>			
0 --> V <sub>max</sub>	nominal load	[ms]	≤ 40
	open circuit	[ms]	≤ 30
V <sub>max</sub> --> 10% V <sub>max</sub>	nominal load	[ms]	≤ 25
	open circuit	[ms]	≤ 50
<b>Programming Times I</b>			
0 --> I <sub>max</sub>	V ≈ 0V (< 2%)	[ms]	≤ 30
I <sub>max</sub> --> 0	V ≈ 0V (< 2%)	[ms]	≤ 30

\* Set values below 0.5% of the maximum value are near the basic accuracy of the power supply.

\*1 For input voltages between 90 and 150Vac the maximum output power is limited to 1000W.

# Energy 1200 Installation Primary Switched Power Supply 1200W

## EXWUID 52.30 programmable V/I/P

### Digital Programming



#### Technical Data

(Guaranteed values after a warm-up period of approx. 15 min. at nominal load, measured at the unit's output)

Type	52.30		
<b>Quality</b>			
Operating Frequency Ripple (200kHz)	[mV <sub>PP</sub> ]	≤ 25	
Superimposed Switching Spikes	[mV <sub>PP</sub> ]	≤ 100	
<b>Voltage Regulation</b>			
Residual Ripple (100Hz)	[mV <sub>PP</sub> ]	≤ 70	
<b>Current Regulation</b>			
Residual Ripple (100Hz-200kHz)	[mA <sub>PP</sub> ]	≤ 100	
Residual Ripple (100Hz)	[mV <sub>PP</sub> ]	≤ 20	
Start-up Delay after Mains on	[s]	7	
Power-up Time after Standby/on; Enable	[ms]	< 150	
<b>Overvoltage Protection (OVP)</b>			
Software	[V]	57	
Hardware (tol.+1.5V)	[V]	58	
Residual Voltage after Tripping	[V]	0	
Sense Lead Operation (load line compensation)	[V]	max. 1.5 per load line	
Input Voltage	[Vac]	100 - 240 ± 10%	(90 - 264)
Frequency (up to 440Hz on request)	[Hz]	50 - 60 ± 10%	(45 - 66)
in the Event of Mains Failure			
at Nominal Load: Buffer time	t <sub>Buff</sub>	[ms]	≥ 20
Bridging time	t <sub>B</sub>	[ms]	≥ 10
Prewarning time	t <sub>p</sub>	[ms]	≥ 10
Power Factor λ	according to EN 61000 3-2		≥ 0.95
<b>Input Voltage</b>			
I <sub>eff max</sub> at V <sub>in</sub> = 115/230Vac -20%	[A]	13 / 7.5	
Starting Inrush Current I <sub>p</sub> for 230Vac	[A]	≤ 30	
Unit Fuse (internal)	[A]	2 x 16 gR	
Air Inlet Temperature	[°C]	- 20... 0... + 50, without derating; internal temperature-regulated fan	
Storage Temperature Range	[°C]	- 25... + 70	
Weight approx.	[kg]	5.3	

For definitions, informations about electrical safety, EMC and mechanical stressability see description.

**Technical Data    Programming**

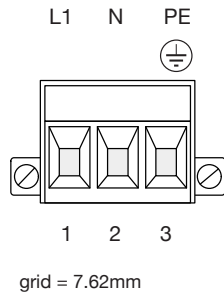
Type		52.30	
Temperature Drift	[ppm/K]	≤ 150	(for all set values and actual values)
<b>V- Control</b>			
<b>Set Value Input</b> (digital set value --> output value)			
Step Size	[mV]	15.68	
max. Digital Error	[%]	0.20	
max. Analog Error	[%]	0.10	
max. Total Error ( $\Delta$ 35K)	[%]	0.83	
absolute Error ( $\Delta$ 35K)	[V]	0.43	
<b>Actual Value Output</b> (output value --> digital actual value)			
Step Size	[mV]	15.68	
max. Digital Error	[%]	0.15	
max. Analog Error	[%]	0.10	
max. Total Error ( $\Delta$ 35K)	[%]	0.78	
absolute Error ( $\Delta$ 35K)	[V]	0.40	
<b>I- Control</b>			
<b>Set Value Input</b> (digital set value --> output value)			
Step Size	[mA]	9.43	
max. Digital Error	[%]	0.20	
max. Analog Error	[%]	0.30	
max. Total Error ( $\Delta$ 35K)	[%]	1.03	
absolute Error ( $\Delta$ 35K)	[A]	0.31	
<b>Actual Value Output</b> (output value --> digital actual value)			
Step Size	[mA]	9.43	
max. Digital Error	[%]	0.15	
max. Analog Error	[%]	0.30	
max. Total Error ( $\Delta$ 35K)	[%]	0.98	
absolute Error ( $\Delta$ 35K)	[A]	0.29	
<b>P- Control</b>			
<b>Set Value Input</b> (digital set value --> output value)			
Step Size	[mW]	590.95	
max. Digital Error	[%]	0.40	
max. Analog Error	[%]	0.40	
max. Total Error ( $\Delta$ 35K)	[%]	1.33	
absolute Error ( $\Delta$ 35K)	[W]	16.22	
<b>Actual Value Output</b> (output value --> digital actual value)			
Step Size	[mW]	590.95	
max. Digital Error	[%]	0.30	
max. Analog Error	[%]	0.40	
max. Total Error ( $\Delta$ 35K)	[%]	1.23	
absolute Error ( $\Delta$ 35K)	[W]	15	

For set values < 2% of the nominal value, the unit operates in open-circuit output in two-limits mode, whereby the output ripple increases.  
For set value "0" the unit remains in open circuit and in the event of low load a residual voltage of lower 300mV remains at the output.



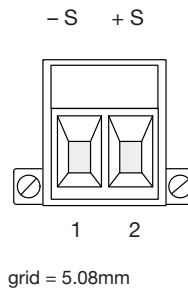
**Connection Assignments**

**Mains Connection X1**  
(socket, P-Comb. 3 pole/ PC 4, *male*)



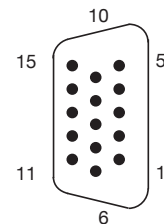
Signal name		Pin
Mains	L1	1
Neutral	N	2
Earth	PE	3

**Sense Lead Connection X3**  
(socket, Combicon 2 pole, *female*)



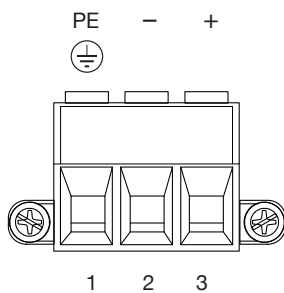
Signal name		Pin
- Sense Lead 1		1
+ Sense Lead 1		2

**I/O-Signal Connection X4**  
(socket, D-Sub-HD 15 pole, *female*)



Signal name	Pin
Enable - 1 - A *	1
Enable - 1 - K *	2
OUT-A: FS (C)	3
OUT-B: PFS (C)	4
OUT-C: VF (C)	5
5V	6
GND	7
GND	8
IN-C: Quit Failure (A)	9
IN-C: Quit Failure (K)	10
Enable - 2 - A *	11
Enable - 2 - K *	12
OUT-A: FS (E)	13
OUT-B: PFS (E)	14
OUT-C: VF (E)	15

**DC-Output Connection X2**  
(socket, P-Comb 3 pole/IPC 16, *female*)

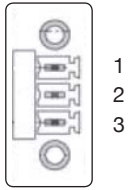


Signal name		Pin
Earth	PE	1
- Output		2
+ Output		3

\* With two Enable inputs (1 and 2) both Performance Level (PL) d according to EN ISO 13849-1 and Safety Integrity Level (SIL) 2 according to EN/IEC 62061 are fulfilled.

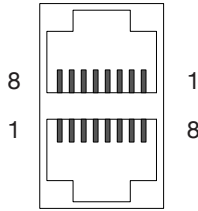
**Connection Assignments**

**Loadshare Connection X5**  
 (socket, Mini-Combicon, female)



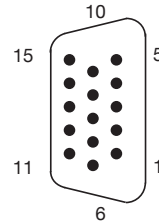
Signal name	Pin
LS	1
LS-GND	2
⊕ (Shield)	3

**RS232 Connection X7**  
 (socket, 2 x RJ45, female)



Signal name	Pin
nc*	1
nc*	2
nc*	3
GND-RS232	4
RxD	5
TxD	6
nc*	7
nc*	8

**Ext. HMI X11**  
 (socket, D-Sub-HD 15 pole, female)



Internal connection

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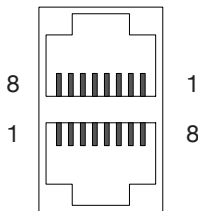
\* Pins marked "nc" may not be connected external.

Explanations see description.

**Advice**

All metallic connector housings are related to protective earth.

**CAN Connection X6**  
 (socket, 2 x RJ45, female)

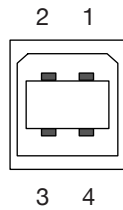


Signal name	Pin
CAN H	1
CAN L	2
GND-CAN	3
nc*	4
nc*	5
nc*	6
GND-CAN	7
nc*	8

Assignment according to CiA DRP303-1

Assignment according to EIA-561

**USB Connection X8**  
 (socket, type B)



Signal name	Pin
VCC	1
D -	2
D +	3
GND	4





**Output Characteristics**

V/I/P - Setting ranges

