

Energy 1200 Installation Primary Switched Power Supply 1200W

EXWUID 120.15 programmable V/I/P

Digital Programming / Enable-Signal redundant



Ordering information

Type	Output	Input Voltage	Housing Dimensions see drawing	Article No* ¹
EXWUID 120.15	V = 0 - 120V* I = 0 - 15A* P = 0 - 1200W*	100-240Vac	406x150x108mm	752-004-00

* Delivery condition; Local Mode

*¹ Housing inside chrome plated, housing outside anodized



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photo for example



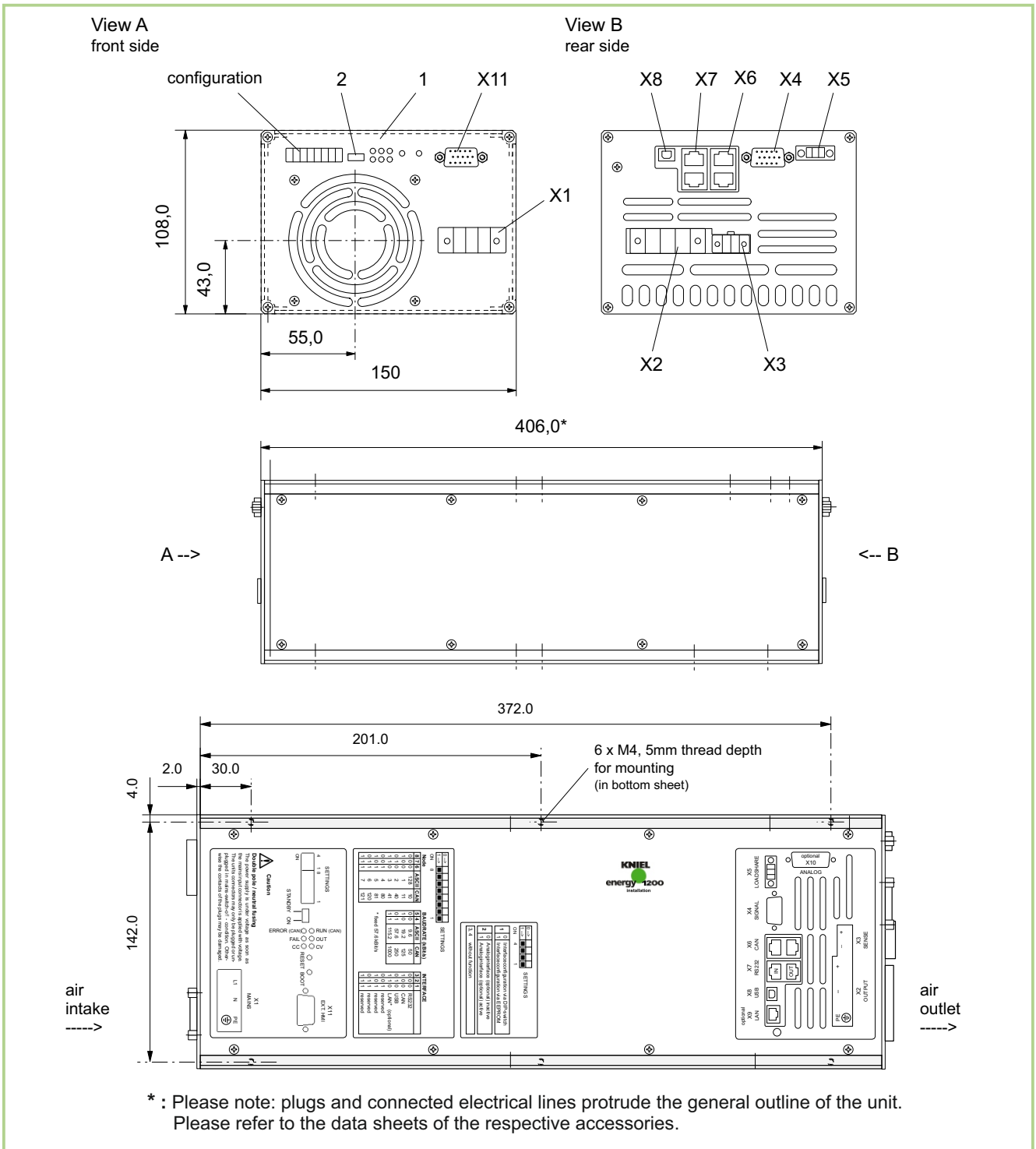
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Dimensions in mm

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



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Technical Data

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

Type	120.15		
Output Voltage*	[Vdc]		0 - 120
Output Current*	[A]		0 - 15
Output Power*	[kW]		0 - 1.2* ¹
Type of Regulation			primary switched
Efficiency	[%]		≥ 90
Static Voltage Regulation			
Load Change 0...100%	[mV]		≤ 80
Input Voltage Change (90-264V)	[mV]		≤ 20
Current Regulation			
Load Change 0...100% R _{NOM}	[mA]		≤ 50
Input Voltage Change (90-264V)	[mA]		≤ 20
Power Regulation			
Load Change inside of V _{max} and I _{max}	[W]		≤ 10
Input Voltage Change (90-264V)	[W]		≤ 10
Dynamic Voltage Regulation			
Control Deviation			
Δ I _o = 60...90% I _{NOM}	[mV]		≤ 300
Load Current Change dI _o /dt	[A/μs]		0.1
Control Time for			
Δ I _o = 60...90% I _{NOM}	[ms]		≤ 0.25
Discharge Circuit			
Continuous Power (tol ±5%)	[W]		80
Peak Power (tol ±5%)	[W] / [ms]		400 / 300
Programming Times V			
0 → V _{max}	nominal load	[ms]	≤ 30
	open circuit	[ms]	≤ 25
V _{max} → 10% V _{max}	nominal load	[ms]	≤ 20
	open circuit	[ms]	≤ 40
Programming Times I			
0 → I _{max}	V ≈ 0V (<2%)	[ms]	≤ 30
I _{max} → 0	V ≈ 0V (<2%)	[ms]	≤ 30

* Set values below 0.5% of 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.

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Technical Data

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

Type	120.15	
Quality		
Operating Frequency Ripple (200 kHz)	[mV _{pp}]	≤ 30
Superimposed Switching Spikes	[mV _{pp}]	≤ 100
Voltage Regulation		
Residual Ripple (100 Hz)	[mV _{pp}]	≤ 75
Current Regulation		
Residual Ripple (100 Hz - 200 kHz)	[mA _{pp}]	≤ 20
Residual Ripple (100 Hz)	[mV _{pp}]	≤ 50
Start-up Delay after Mains on	[s]	7
Power-up Time after Standby/ON, Enable	[ms]	< 150
Overvoltage Protection (OVP)		
Software	[V]	130
Hardware (tol +5V)	[V]	135
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 _{buff}	[ms]	≥ 20
Bridging Time t _b	[ms]	≥ 10
Prewarning Time t _p	[ms]	≥ 10
Power Factor λ according to EN 61000 3-2		≥ 0.95
Input Voltage		
I _{eff max} at V _{in} = 115/230Vac -20%	[A]	13 / 7.5
Start Inrush Current I _p for 230Vac	[A]	≤ 30
Unit Fuse (internal)	[A]	2 x T16
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, information about electrical safety, EMC and mechanical stressability see the description.		

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Technical Data Programming

Type	120.15		
Temperature Drift	[ppm/K]	≤ 150	(for all set values and actual values)
V- Control			
Set Value Input	(digital set value → output value)		
Step Size	[mV]	36.0	
max. Digital Error	[%]	0.20	
max. Analog Error	[%]	0.10	
max. Total Error ($\Delta\theta$ 35 K)	[%]	0.83	
absolute Error ($\Delta\theta$ 35 K)	[V]	1.00	
Actual Value Output	(output value → digital actual value)		
Step Size	[mV]	36.0	
max. Digital Error	[%]	0.15	
max. Analog Error	[%]	0.10	
max. Total Error ($\Delta\theta$ 35 K)	[%]	0.78	
absolute Error ($\Delta\theta$ 35 K)	[V]	0.93	
I- Control			
Set Value Input	(digital set value → output value)		
Step Size	[mA]	4.5	
max. Digital Error	[%]	0.20	
max. Analog Error	[%]	0.30	
max. Total Error ($\Delta\theta$ 35 K)	[%]	1.03	
absolute Error ($\Delta\theta$ 35 K)	[A]	0.15	
Actual Value Output	(output value → digital actual value)		
Step Size	[mA]	4.5	
max. Digital Error	[%]	0.15	
max. Analog Error	[%]	0.30	
max. Total Error ($\Delta\theta$ 35 K)	[%]	0.98	
absolute Error ($\Delta\theta$ 35 K)	[A]	0.15	
P- Control			
Set Value Input	(digital set value → output value)		
Step Size	[mW]	650	
max. Digital Error	[%]	0.40	
max. Analog Error	[%]	0.40	
max. Total Error ($\Delta\theta$ 35 K)	[%]	1.33	
absolute Error ($\Delta\theta$ 35 K)	[W]	16.22	
Actual value output	(output value → digital actual value)		
Step Size	[mW]	650	
max. Digital Error	[%]	0.30	
max. Analog Error	[%]	0.40	
max. Total Error ($\Delta\theta$ 35 K)	[%]	1.23	
absolute Error ($\Delta\theta$ 35 K)	[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.

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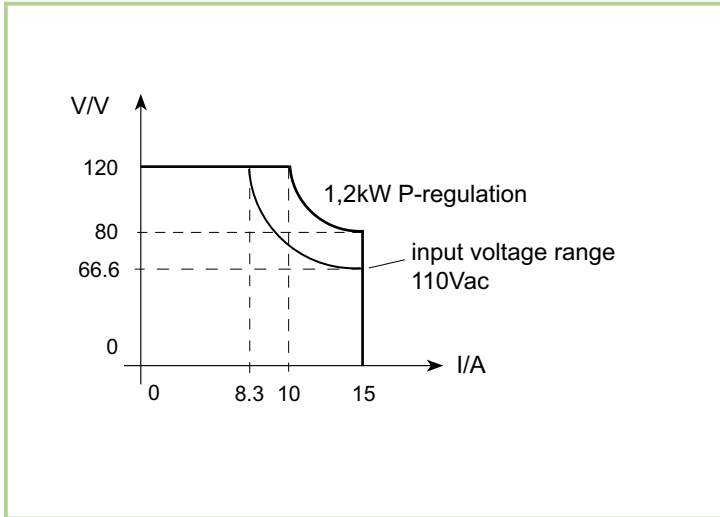
EXWUID 120.15 programmable V/I/P

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CE
EMC + Safety
tested
UL 60950-1
CSA 22.2 No 60950-1
IEC 60950-1

Output Characteristics

V/I/P - Setting ranges



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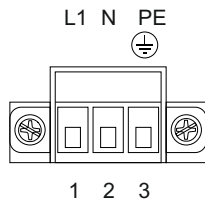
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Connection Assignments

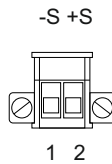
Connector accessories

Mains Connection X1 PC 4/3-ST-7.62



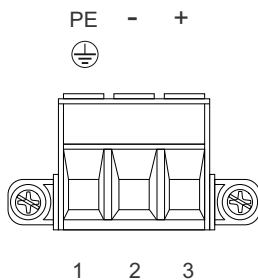
Signal name		Pin
Mains	L1	1
Neutral	N	2
Earth	PE	3

Sense Lead Connection X3 IC 2.5/2-STF-5.08



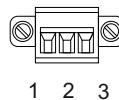
Signal name	Pin
- Sense Lead 1	1
+ Sense Lead 1	2

DC Output Connection X2 IPC 16/3-STF-10,16



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

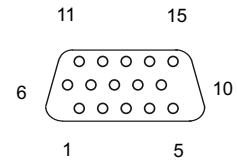
Loadshare Connection X5 MC 1.5/3-STF-3.81



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

Interfaces

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



Signal name	Pin
ENABLE 1 (A) *	1
ENABLE 1 (K) *	2
OUT-A (C): BO_CH00 (FS**)	3
OUT-B (C): BO_CH01 (PFS**)	4
OUT-C (C): BO_CH02 (VF**)	5
5V	6
GND	7
GND	8
IN-C (A): BI_CH00 (QUIT FAILURE**)	9
IN-C (K): BI_CH00 (QUIT FAILURE**)	10
ENABLE 2 (A)*	11
ENABLE 2 (K)*	12
OUT-A (E): BO_CH00 (FS**)	13
OUT-B (E): BO_CH01 (PFS**)	14
OUT-C (E): BO_CH02 (VF**)	15

* 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.

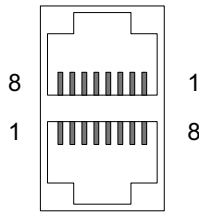
** Default configuration
Freely configurable signal input / output.
Please refer to the chapter BIO (Binary input / output signals) in the description.

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Connection Assignments

Interfaces

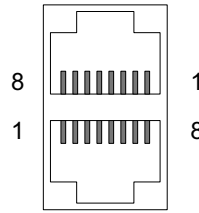
CAN Connection X6
 (socket, 2 x RJ45)



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

Pin assignment according to
 CiA DRP303-1

RS232 Connection X7
 (Socket, 2 x RJ45)



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

Pin assignment according to
 EIA-561

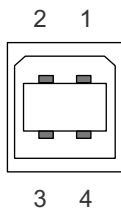
* Pins marked „nc“ may not be connected external.

Explanations see description.

Advice

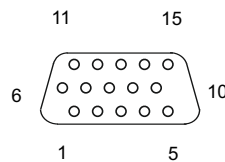
All metallic connector housings are related to protective earth.

USB Connection X8
 (socket, type B)



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

Ext. HMI X11
 (socket, D-Sub-HD 15-pol.)



Internal connection

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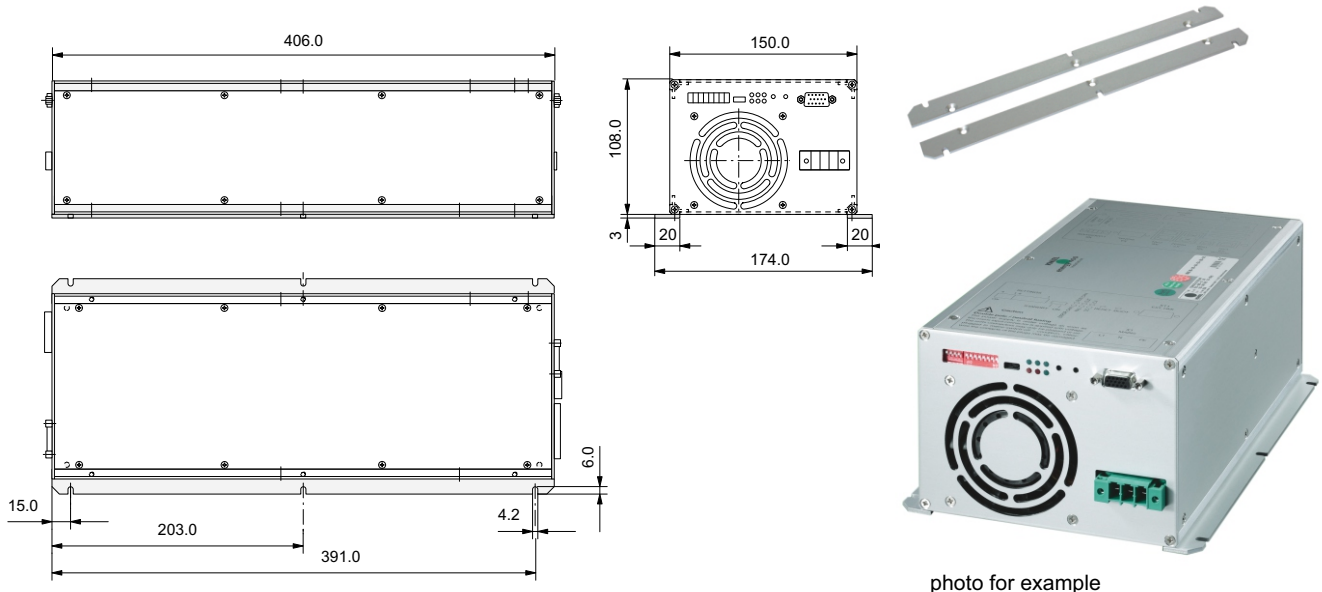
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Accessories				Article-No.
Mains connection	X1	Connector - PC 4/3-ST-7.62 screwable connections 3 pole, 0.2 - 4mm ²	female	400-116-00
				400-130-00
DC-Output connection	X2	Connector - IPC 16/3-STF-10.16 screwable connection 3 pole, 0.75 - 16mm ²	male	400-123-00
Sense lead connection	X3	Connector - IC 2.5/2-STF-5.08 screwable connection 2 pole, 0.2 - 2.5mm ²	male	400-119-00
I/O-Signal connection	X4	Connector D-SUB HD 15 pole Stifleiste solderable connections until AWG 22 (0.3mm ² flex)		400-106-00
Loadshare connection	X5	Connector - MC 1.5/3-STF-3.81 screwable connections 3 pole, 0.14 - 1.5mm ²	female	400-120-00
CAN connection	X6	Connector RJ45 (2x) insulation-displacement terminal contacts, AWG 22-26		400-104-00
RS232 connection	X7	Connector RJ45 (2x) insulation-displacement terminal contacts, AWG 22-26		400-104-00

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

Example unit with mounting strips



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