Installation Unit   Primary Switched Power Supply   1200W
EXWUI 140.10   programmable V/I

Programming Voltage 0 - 5V

KNIEL

Ordering Information

Type	Output	Input Voltage	Housing Dimensions see drawing	Article No.*1
EXWUI 140.10	V = 0V - 140V* I = 0A - 10A*	100 - 240Vac 145 - 227Vdc	270x150x108mm	**750-111-00**

* Delivery condition

*1 Housing inside chrome plated, housing outside anodized

KNIEL does not accept any liability for typographical or other errors.
All specifications are subject to change without prior notice.

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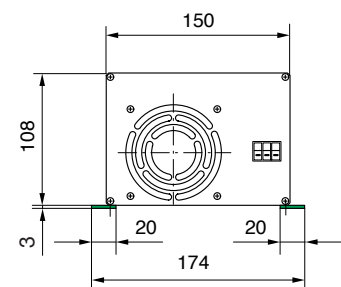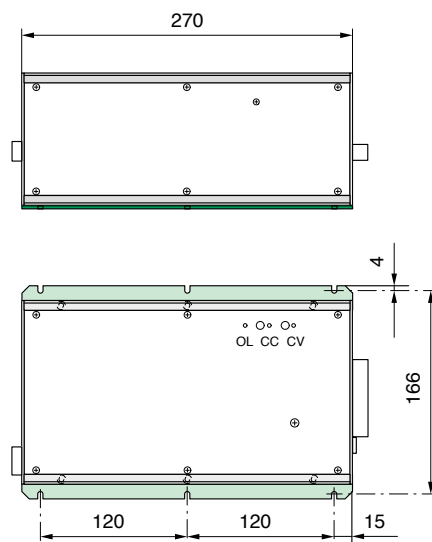
Programming Voltage 0 - 5V

CE

EMC + Safety tested

Accessories

			Article No.
Mains Connection	**X1**	Connector - PC 4/3-ST-7.62 screwable connection 3 pole, max 4mm² flex	**400-056-00**
DC-Output Connection	**X2**	Connector - PC 6/6-ST-10.16 screwable connection 6 pole, max 6mm² flex	**400-084-00**
Sense Lead Connection (for sense connection only)	**X3**	Connector - MSTB 2.5/2-ST-5.08 screwable connection 2 pole, max 2.5mm² flex	**400-085-00**
I/O-Signal Connection	**X4**	Connector D-SUB 15 pole male solderable connection up to AWG 20 (0.5mm² flex)	**400-067-00**

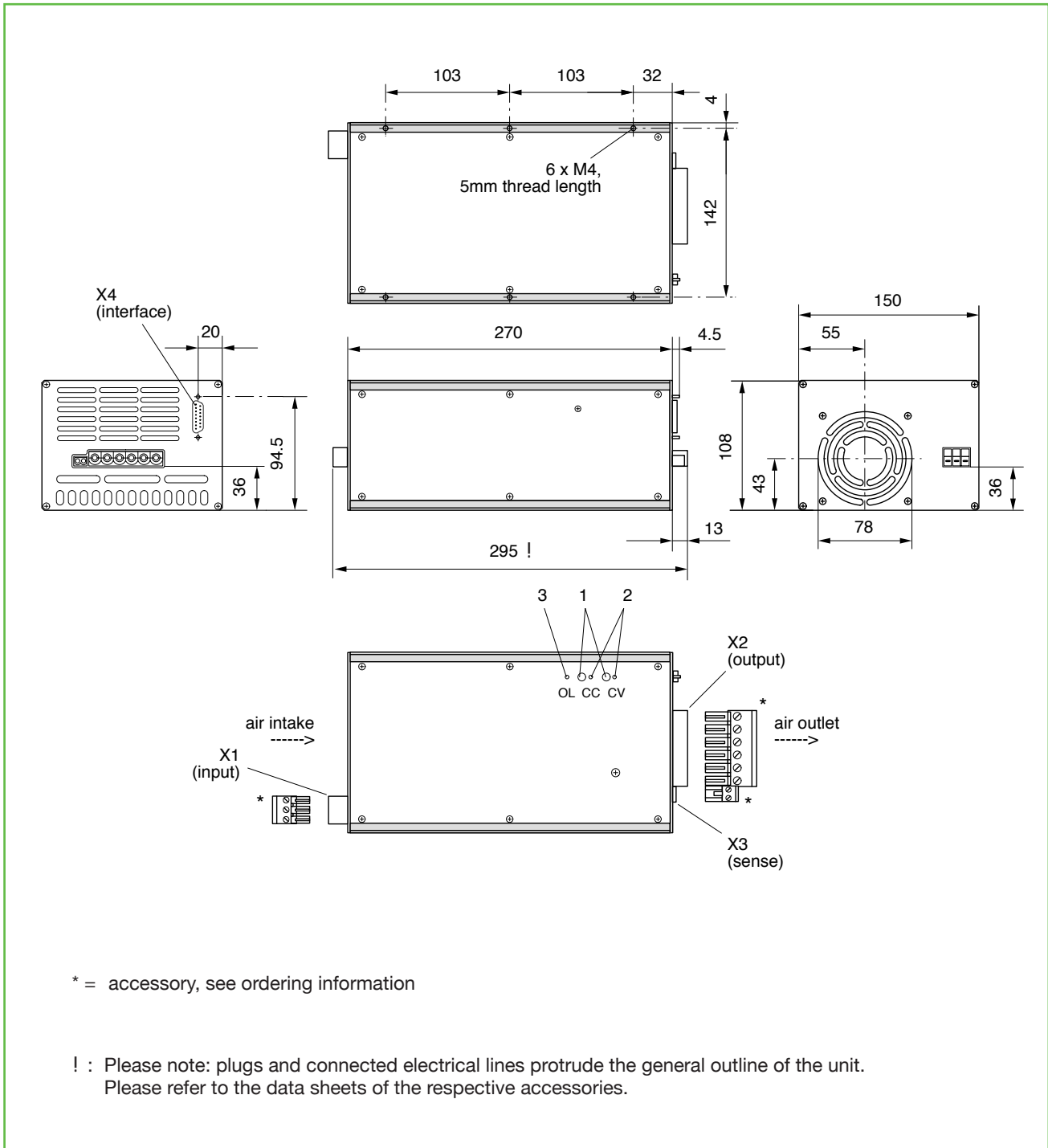| Type		Article No.	Article No. mounted on device
Kit 01 Kit consisting of:	2 x mounting strip 6 x special screw M4 x 6	**402-110-00**	**402-110-10**

Dimensions in mm

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Dimensions in mm   without accessories

X1 = Mains connection   X3 = Sense lead connection   1 = Potentiometer
X2 = DC-Output connection   X4 = I/O-Signal connection   2 = LED, green
                                                                 3 = LED, red

OL CC CV

X4 (interface)

X2 (output)

air intake ------>

air outlet ------>

X1 (input)

X3 (sense)

6 x M4, 5mm thread length

* = accessory, see ordering information

! : Please note: plugs and connected electrical lines protrude the general outline of the unit.
Please refer to the data sheets of the respective accessories.

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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		140.10	
Output Voltage	[Vdc]	**0 - 140**	
Output Current	[A]	0 - 10	
Output Power *	[W]	1200	
Type of Regulation		primary switched	
Efficiency for V_{IN} =230Vac/250Vdc, V_{Omax}	[%]	≥ 89	
Static *1 **Voltage Regulation**			
Load Change 0... 100%	[mV]	≤ 10	
Input Voltage Change (V_{INmin} - V_{INmax})	[mV]	≤ 10	
Current Regulation			
Load Change 0... 100% R_{NOM}	[mA]	≤ 50	
Input Voltage Change (V_{INmin} - V_{INmax})	[mA]	≤ 10	
Dynamic Voltage Regulation			
Control Deviation *1 ΔI_O = 65...100% I_{NOM}	[mV]	≤ 900	
Control Time for *2 ΔI_O = 65...100% I_{NOM}	[ms]	≤ 2	
at Load Current Change dI_O/dt	[A/µs]	0.1	
Quality *1 **Voltage Regulation**			
Residual Ripple (100Hz at AC-operation)	[mV_{PP}]	≤ 100	
Operating Frequency Ripple (120kHz)	[mV_{PP}]	≤ 10	
Superimposed Switching Spikes	[mV_{PP}]	≤ 300	
Start-up Delay after Mains on	[s]	1	
Power-up Time after Standby/on	[ms]	≤ 75	
Overvoltage Protection (OVP) Factory Setting (tol.+3V)	[V]	150	
Sense Lead Operation (load line compensation)	[V]	max. 1.0 per load line	
Overload Protection		continuous short-circuit-proof; thermally disconnection	
Temperature Coefficient	[ppm/K]	150	
Input Voltage	[Vac] / [Vdc]	100 - 240 / 145 - 227 ±10%	(90 - 264 / 130 - 250)
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]	≥ 15	
Bridging time t_B	[ms]	≥ 10	
Prewarning time t_P	[ms]	≥ 5	
Power Factor λ according to EN 61000 3-2		≥ 0.95	
Input Current $I_{eff\,max}$ for V_{IN} = 115/230Vac –20%	[A]	14 / 8.5	
$I_{dc\,max}$ for V_{IN} = 130/250Vdc	[A]	10 / 6	
Starting Inrush Current I_P for 230Vac/220Vdc	[A]	≤ 40	
Unit Fuse (internal)	[A]	20 aM	
Air Inlet Temperature	[°C]	– 20… 0… + 50, without derating; internal temperature-regulated fan	
Storage Temperature Range	[°C]	– 25... + 70	
Weight approx.	[kg]	4	

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

*   See description - mains input
*1 At – 20° C the values increase by factor 2
*2 At – 20° C the values increase by factor 5.

Technical Data: Programming / Monitoring

Type			140.10
V- Control	**Set Value Input**		(guaranteed values between V_{Omin} and V_{Omax})
Linearity		[%]	0.1
max. Linearity Error Absolute[2]		[mV]	5
Offset Error (±) [2]		[mV]	10
Temperature Drift		[ppm/K]	100
max. Total Error ($\Delta\vartheta$ 35K)		[%]	0.65
min. Output Voltage* (V_{Omin})		[mV]	≤ 200
	Actual Value Output		
Accuracy		[%]	0.4
max. Accuracy Error Absolute[4]		[mV]	100
Offset Error (±) [3]		[mV]	10
Temperature Drift		[ppm/K]	50
max. Total Error ($\Delta\vartheta$ 35K)		[%]	0.78
Programming Times			
0 --> V_{max}	Nominal Load	[ms]	75
	Open Circuit	[ms]	40
V_{max} --> 0	Nominal Load	[ms]	75
	Open Circuit	[s]	10
I- Control	**Set Value Input**		(guaranteed values between V_{Omin} and V_{Omax})
Linearity		[%]	0.1
max. Linearity Error Absolute[2]		[mV]	5
Offset Error (±) [2]		[mV]	10
Temperature Drift		[ppm/K]	100
max. Total Error ($\Delta\vartheta$ 35K)		[%]	0.65
min. Output Current			
in Case of Short Circuit[1] (impedance)		[mA]	≤ 300 (≥ 20mΩ)
	Actual Value Output		
Accuracy		[%]	0.6
max. Accuracy Error Absolute[4]		[mA]	60
Offset Error (±) [3]		[mV]	10
Temperature Drift		[ppm/K]	50
max. Total Error ($\Delta\vartheta$ 35K)		[%]	0.98
General Interface Data			
	Set Value Input		
Range		[V]	0… 5
Input Impedance		[kΩ]	10
	Actual Value Output		
Range		[V]	0… 5
Output Impedance		[Ω]	10
Short Circuit Current		[mA]	50
Voltage Values	1V is equivalent to	[V]	28
Current Values	1V is equivalent to	[A]	2

*   In the case of setpoints with programming voltage near 0V; load-dependent.

[1]   When using current setpoints with programming voltage near 0V and lower short circuit impedance higher values result.

[2]   With respect to the programming voltage.

[3]   With respect to the monitoring output.

[4]   With respect to the unit´s output.

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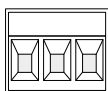# EXWUI 140.10   programmable V/I
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Pin Configuration

Mains Connection X1
(Power Combicon 3 pole / series PC 4)
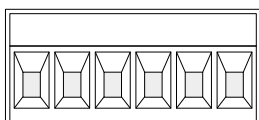
```
L1   N   earth
(+)  (−)  PE
 1   2   3
```

grid = 7.62mm

signal name		pin
L1	(+ DC)	1
N	(− DC)	2
Earth	PE	3

DC-Output Connection X2
(Power Combicon 6 pole / series PC 6)

```
−   −   +   +   nc  nc
1   2   3   4   5   6
```

grid = 10.16mm

signal name		pin
−	Output 1	1, 2
+	Output 1	3, 4
nc*		5, 6

Sense Connection X3
(Combicon 2 pole)
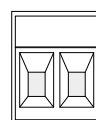
```
+ S  − S
 1    2
```

grid = 5.08mm

signal name		pin
+	Sense 1	1
−	Sense 1	2

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

```
1           9
2          10
3          11
4          12
5          13
6          14
7          15
8
```
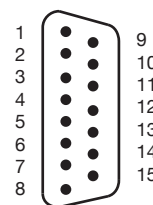
signal name	pin
Standby/on	1
PA	2
LS	3
Overtemp.	4
GND prog (referring to minus sense)	5
nc*	6
I_{set}	7
V_{set}	8
GND (connected with minus sense)	9
PFS-E	10
PFS-C	11
I_{actual}	12
V_{actual}	13
12V V_h (Ri = 1kΩ)	14
5V V_h (I_{max} = 5mA)	15

All plug connectors may be plugged and unplugged only in dead conditions! Otherwise, the contacts would be damaged or destroyed.

⚠

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

Explanations see description.

Advice
All metallic connector housings are related to protective earth.

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EXWUI 140.10   programmable V/I

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Output Characteristics

V/I - Ranges / Power Limiting

Doc: 96300736.07 - also effective: description no 95930012