



A mating connector with faston tabs is packed with each power supply

SX - SERIES EURO - CASSETTE SWITCHED MODE POWER SUPPLIES

With autoranging input for worldwide use

The SX-series covers the whole output voltage range between 3.5 V and 400 V DC.

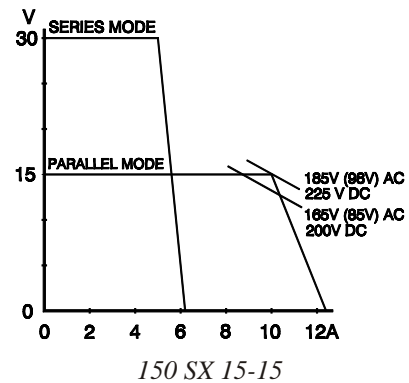
75 SX 5		3.5 - 6 V	13 A
150 SX 5		3.5 - 6 V	26 A
75 SX 15-15 *)	2 x 6	- 15 V	2.5 A
150 SX 15-15	2 x 6	- 15 V	5 A
150 SX 75-75	2 x 15	- 75 V	1 A
150 SX 200-200	2 x 35	- 200 V	0.3 A
ST 150		3.5 - 6 V	13 A
	2 x 6	- 15 V	2.5 A

*) option 2x 6-18V 2A is possible

The ST 150 is a combination of a 75 SX 5 and a 75 SX 15-15 in a 150W case. The 5V output is isolated from the 2 x 15V.

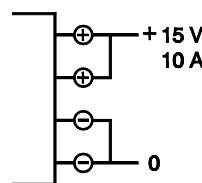
The units with two equal outputs can be used in three different modes, series-, parallel- and dual-mode, simply by connecting the outputs in series or parallel at the mating connector.

The two outputs cannot be used separately.

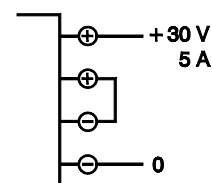


For **24 V 2.5 A** use 75 SX 15-15
 For **24 V 5 A** use 150 SX 15-15

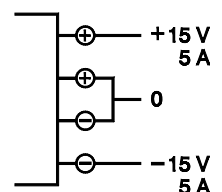
For **24V redundant** parallel operation use 240 S 24 instead of 150 SX 15-15.



Parallel mode



*Series mode
150 SX 15-15*

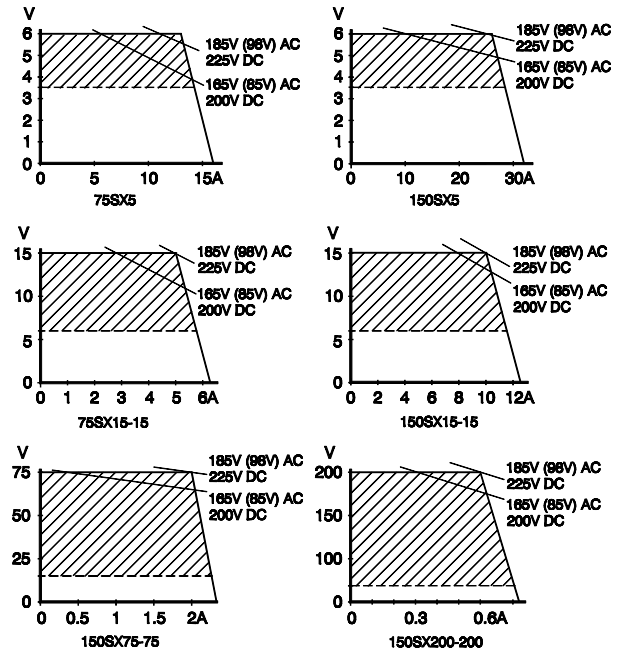


Dual mode

Index of possible voltage / current combinations

Voltage range		Max. current	Model
3.5	- 6 V	13 A	75 SX 5
3.5	- 6 V	26 A	150 SX 5
6	- 15 V	5 A	75 SX 15-15
6	- 15 V	10 A	150 SX 15-15
12	- 30 V	2.5 A	75 SX 15-15
12	- 30 V	5 A	150 SX 15-15
15	- 75 V	2 A	150 SX 75-75
30	- 150 V	1 A	150 SX 75-75
35	- 200 V	0.6 A	150 SX 200-200
70	- 400 V	0.3 A	150 SX 200-200
+ and - 6 to 15 V		2.5 A	75 SX 15-15
+ and - 6 to 15 V		5 A	150 SX 15-15
+ and - 15 to 75 V		1 A	150 SX 75-75
+ and - 35 to 200 V		0.3 A	150 SX 200-200
3.5	- 6 V	13 A	ST 150
6	- 15 V	5 A	
3.5	- 6 V	13 A	ST 150
12	- 30 V	2.5 A	
3.5	- 6 V	13 A	ST 150
+ and - 6 to 15 V		2.5 A	

Derating of output current at low line voltage



Specifications:

Input	Autoranging	75W	150W	Fuse	75W	150W
AC 98 - 132 V	48 - 62 Hz	1.3 A rms	2.6 A rms	2 A T	4 A T	
185 - 264 V	48 - 62 Hz	0.7 A rms	1.4 A rms			

For DC operation and operation at 400 Hz contact factory.

Inrush current limit : 10 A with NTC resistor 30 Ohms cold resistance.

Insulation
 Input / output : 4 kV rms (1 min.), 8 mm creepage/cl.
 Input / case : 2.5 kV rms (1 min.), 5 mm creepage/cl.
 Output / case : 500 V DC, 1 mm creepage/clearance
 1 kV DC for 150 SX 75-75 and 200-200.

Safety : EN 60950 EN 61010

EMC : EN 61204-3 Power Supply Standard
 EN 61000-6-3 (EN55022B) Generic Emission
 EN 61000-6-2 Generic Immunity

Efficiency : 84 % dual units, 80 % 5V units at 230V AC input.
 81 % and 78 % respectively at 110V AC input.

Voltage regulation
 5 and 15V models : 75 and 200V models
 Load 0 - 100% : 10 mV (with ext.sense) 200 mV
 Line 185 - 264V AC : 10 mV 150 mV

Ripple + noise : 5 mV rms, max. 20 mV p-p 70 mV rms, 100 mV p-p

Stability : $5 \cdot 10^{-4}$ during 8 hours under constant conditions after 1 hr warm up.

Temp. coefficient : $1 \cdot 10^{-4}$ per °C

Output impedance : Max. 0.1 Ohm up to 100 kHz, except
 150 SX 75-75 and 200-200 max. 1 Ohm.

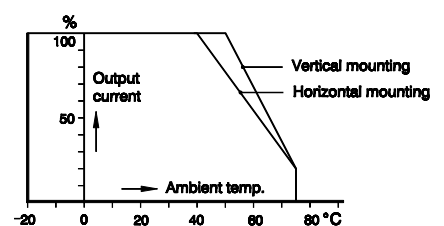
Recovery time : 0.1 ms to recover to within 0.1V after a
 50-100% load step. Max. deviation 0.4V.
 0.6 ms / 1.2V for 75V and 200V models.

Ambient temperature : Storage : - 40 to + 85 °C
 Operating: - 20 to + 50 °C, derate current
 linearly to 20% from 50 to 75 °C.

Temp. protection : Overtemperature protected.



Transformer with split bobbin provides 4 kV dielectric strength between input and output.



Temperature derating

- Hold-up time** : 15 ms at full load, 30 ms at half load (220V AC).
- Series operation** : Up to 500 V total voltage. Up to 1 kV for 150 SX 75-75 and 200-200.
- Parallel operation** : Allowed up to 40 °C ambient temperature
- Redundant par. operation** : Is possible with external diodes
- Current limit** : The current limit is fixed and protects the power supply during overloading and short circuiting. Continuous overload and short circuit does not harm the unit. 10% more current can be taken at the low end of the voltage range.
- Voltage limit** : For safety a second regulation circuit limits the output voltage to about 10% above its range in case the normal regulation loop fails.
- Voltage adjustment** : The output voltage is continuously variable over the whole range with a 20 turn screw driver adjustment through the frontpanel.
- Remote control** : Voltage control with an external potentiometer is possible after some small internal changes (see manual).
- Remote programming** : Remote programming of the output voltage is possible after changing an internal link on the PCB. An analog voltage of 5V between PROG. and S- corresponds with the max output voltage. Note: In dual mode S- is at a negative polarity.
- Remote sensing** : The sense points are internally connected to + and - output. These links have to be removed when remote sensing is required. The max. sense range is 2V per load lead for SX 15-15 and 0.5V for SX 5. However the voltage across the leads plus the load cannot exceed the supply max. output rating. ST 150, 150 SX 75-75 and 200-200 have no remote sensing facility.
- Remote shut down** : By +5 V (3.5 - 12 V) between RSD and S- or -. Note: In dual mode S- is at neg. polarity.
- Led lamp** : A green led lamp at the front panel indicates the output.
- MTBF** : 1 000 000 hrs

75SX15-15 or 150SX15-15 used as dual power supply

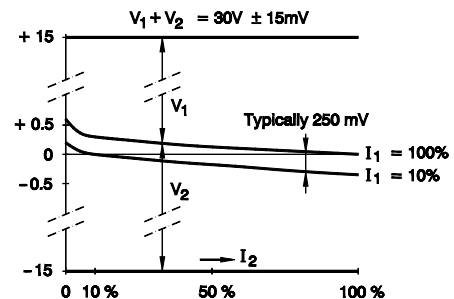
Because the sense points of the regulation are internally connected to the + and -15V terminals, the total voltage $V_1 + V_2$ is kept constant.

When V_1 and V_2 are equally loaded the zero point will be in the middle.

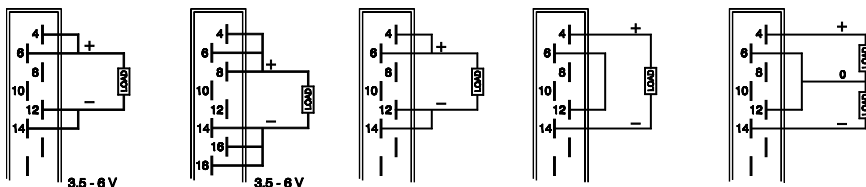
With unequal loads a slight zero shift will occur.

Asymmetrical overloading and shortcircuiting will not damage the unit.

The 150 SX 75-75 and 200-200 have similar characteristics (relatively better).



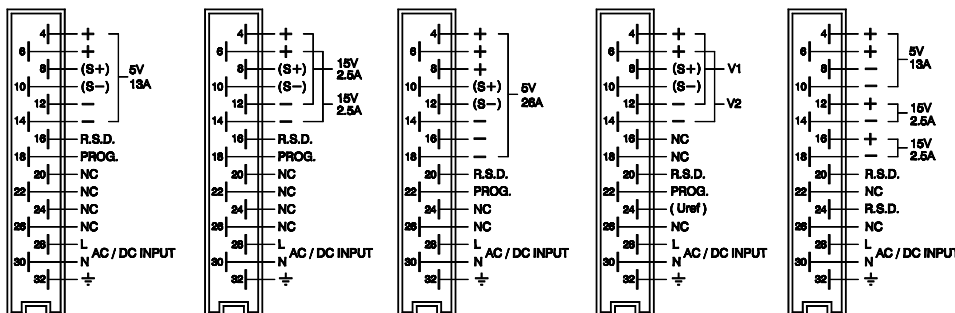
Zero-shift caused by unequal loading of the + and -15V



75 SX 5 use 2 pins parallel
 150 SX 5 use 3 pins parallel
 Units with two equal outputs: Parallel mode Series mode Dual mode

The sense points S+ and S- are internally connected to + and -. If remote sensing is required the internal links have to be removed (not allowed at 75V, 200V and triple units).

Connections SX-series



75 SX 5 75 SX 15-15 150 SX 5 150 SX 15-15 ST 150
 150 SX 75-75
 150 SX 200-200

The H15 mating connector (DIN 41612) is available with **faston tabs** (standard), **screw terminals** (optional) and **solder pins** (optional)

Bench adapters

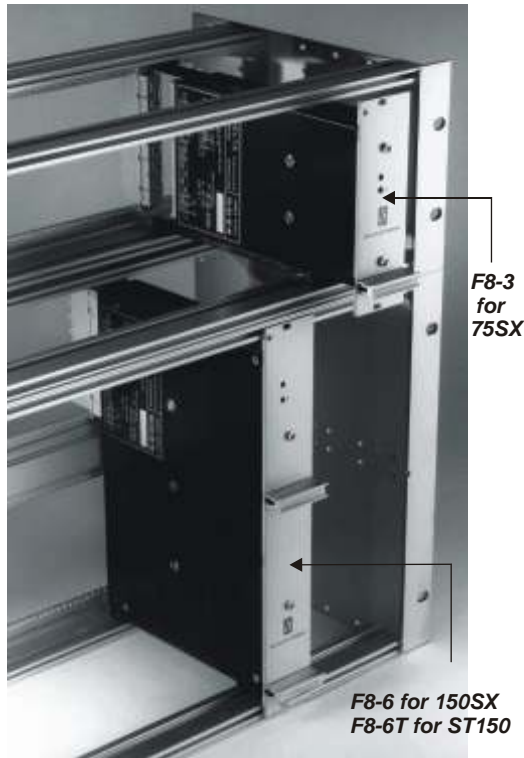


BA 150

BA 150 can be used with:
 150 SX 15-15, ST 150
 240 S 24
 other 150 SX optional

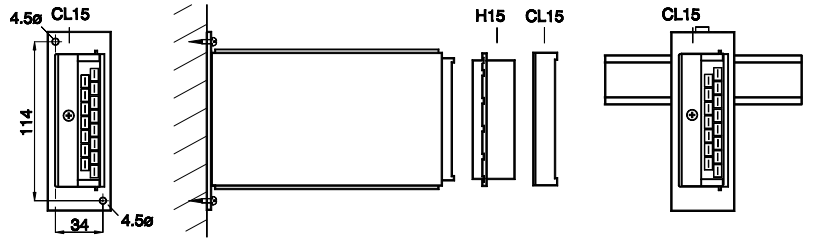
BA 75 can be used with:
 75 SX 5
 75 SX 15-15

Eurocard rack mounting



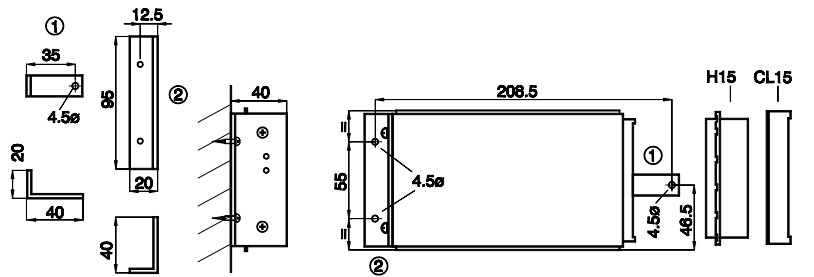
Dimensions acc. to DIN 41494 to fit into Eurocard racks 3U height (132.5 mm) or 6U height (265 mm)

Wall and rail mounting 75 SX



Vertical wall mounting with W8-3 and CL15

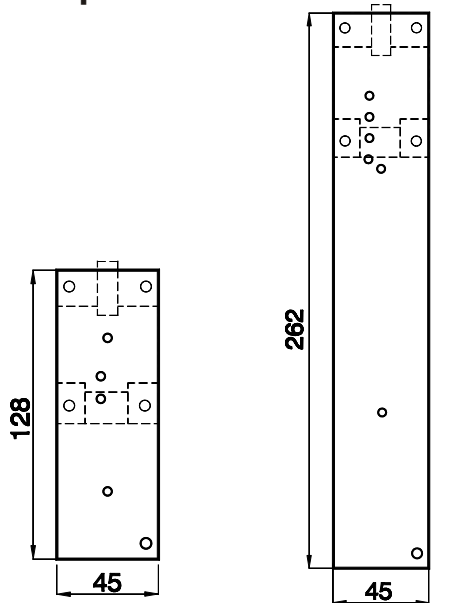
Rail mounting with W8-3, AR1 and CL15



Mounting kit H95 for flat wall mounting

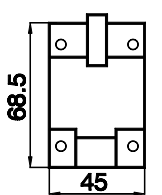
Flat wall mounting with H95 kit and CL15

Adapters



W8-3 for vertical wall or rail mounting 75SX

W8-6 for vertical wall or rail mounting 150SX

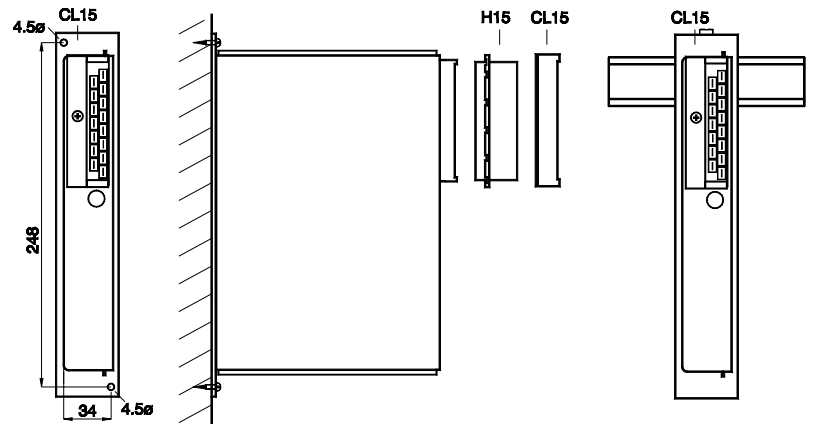


Adapter AR1 for 35 mm rail mounting



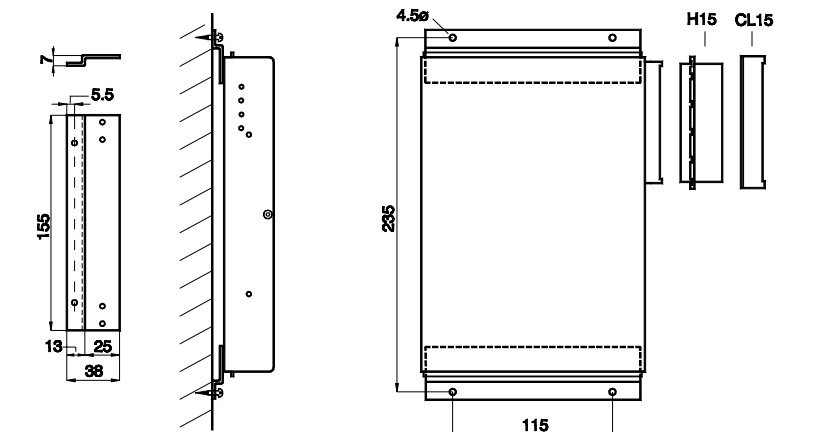
Clamp CL15 to fix the H15 connector when wall mounted

Wall and rail mounting 150 SX, ST 150



Vertical wall mounting with W8-6 and CL15

Rail mounting with W8-6, AR1 and CL15



Bracket H155 for flat wall mounting

Flat wall mounting with 2 pcs H155 and CL15