Analog interface options

AC-HVDC power supplies

The analog interface (15-pole D-sub socket on the rear panel) is used to control the functions voltage setting, current setting as well as OUTPUT ON/OFF and, depending on the unit type, special functions. The current actual values are provided as analog voltages and the latest control modes as digital signals.

For most models, the analog programming can be installed later at our site.

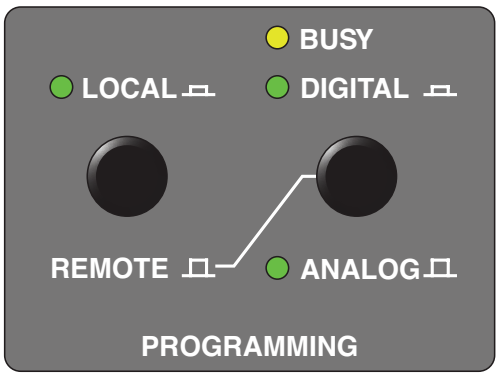
Analog programming

	Description	Control output variants
Non-isolated	Due to the direct coupling of the analog signals, the device characteristics like accuracy, linearity, stability, and temperature coefficient remain unchanged. Please note that the power supply units which are equipped with the non-isolated analog programming option CANNOT be operated potential-free!	0 - 10V (Standard) 0 - 10V (for PLC) 0 - 5V 4 - 20mA
Isolated	All signals are 2kV isolated from the output potential via fibre optic. With isolated analog programming there is no galvanic connection between the pins of the programming interface and the output sockets. On request, we can also supply a fibre optic option with isolation capabilities up to 200kV and more.	0 - 10V (Standard)
Floating (max 600V)	The analog signals for voltage and current setpoint as well as voltage and current monitors are isolated from the output potential via isolation amplifiers. Digital signals are isolated via optocouplers. Floating analog programming has the advantage of faster data transmission compared to isolated analog programming.	0 - 10V (Standard) 0 - 10V (for PLC)

Front panel

Control unit with two selectable operating modes:
LOCAL / ANALOG programming.

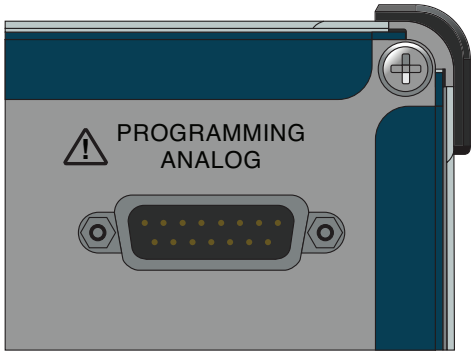
Control unit with three selectable operating modes:
LOCAL / ANALOG / DIGITAL programming.



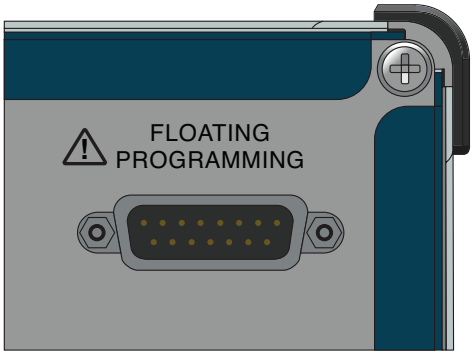
Analog interface options

Rear panel

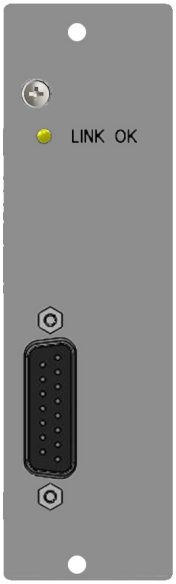
Non-isolated analog programming



Floating analog programming (max 600VDC)

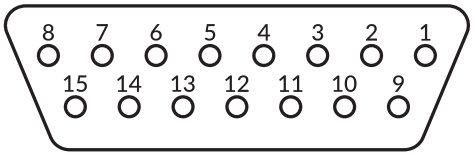


Isolated analog programming



D-Sub 15 pin interface

The assignment of some pins differs depending on the device series.
The plug connection is shown from its solder side.



Pin	Description	Type[2]	Function
1	CC	DO	Supplies approximately +15V, if the power supply is in constant current mode, equivalent to LED CC, Ri approximately 10k Ω
2	CV	DO	Supplies approximately +15V, if the power supply is in voltage mode, equivalent to LED CV, Ri approximately 10kΩ
3	I-MON	AO	Actual output current monitor signal 0…10V, represents 0…$I_{nominal}$, Ri approximately 10kΩ
4	VPS	AO	Only used for non-isolated analog programming interface. Slider voltage pot on front panel 0…+10V, Ri approximately 10kΩ
5	IPS	AO	Only used for non-isolated analog programming interface. Slider current pot on front panel 0…+10V, Ri approximately 10kΩ
6	0VD	D GND	Ground for digital signals. May be current loaded.
7			The function of this pin depends on the power supply series.
8	V-SET	AI	0…+10V equals 0…$U_{nominal}$, input resistance to 0V approximately 10mΩ
9	0V	A GND	Ground for analog signals. Must not carry any current.
10	+10VREF	AO	+10V reference (output), max. 2mA
11	V-MON	AO	Actual output voltage monitor signal 0…10V represents 0…Unominal; Ri approximately 10kΩ
12	OUTPUT ON	DI	Pin (12) open = OUTPUT OFF Pin (12) connected to 0VD Pin (6) = OUTPUT ON
13			The function of this pin depends on the power supply series.
14	Not used		
15	I-SET	AI	0…+10V equals 0…$I_{nominal}$, input resistance against 0V approximately 10mΩ

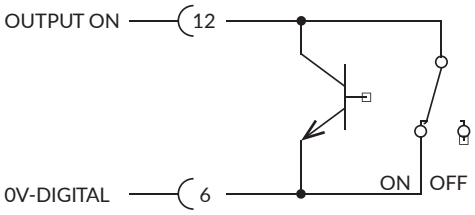
Notes:

1. All values of voltages and currents are in DC.
2. D=Digital, A=Analog, I=Input, O=Output, GND=Ground

Analog interface options

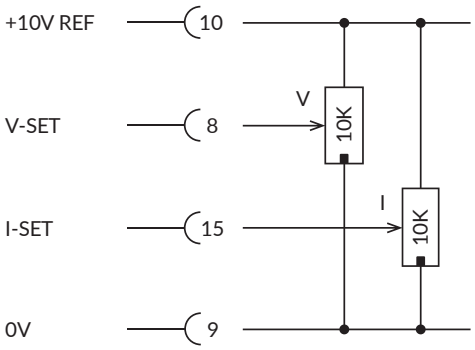
Wiring options

Controllable with semiconductor or switches.

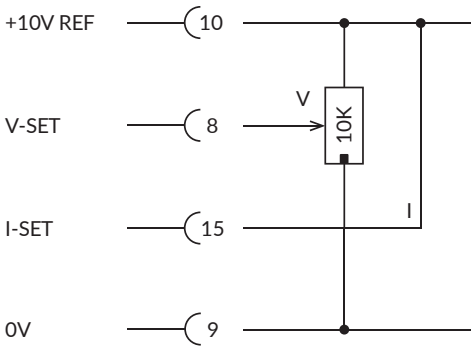


The +10V reference voltage provides the power supply

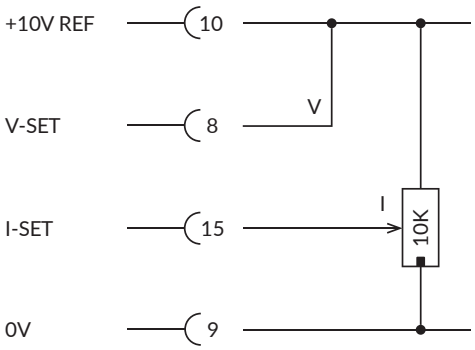
External potentiometer for voltage and current.



External potentiometer for voltage and maximum current.



External potentiometer for current and maximum voltage.



More details or resources on request. Please consult XP Power Sales directly.