Digital interface options

AC-HVDC
power supplies

The modular interface system PROBUS V allows the digital control of functions like voltage setting, current setting, as well as OUTPUT ON/OFF and, depending on the unit type, special functions.

All digital interfaces provide full galvanic isolation through internal fiber optic connectors. There is one digital interface per device (some units can have more) and it can be combined with an analog programming interface.

For most models, the digital programming can be changed as a service request. Interface boards are interchangeable.

Interface specific data

Digital interface	RS-232 RS-422 RS-485	USB	LAN / Ethernet	Profibus DP	IEEE 488
Default baud rate	9600Bd	115200Bd	230400Bd	38400Bd	625000Bd
Typical command response times	40ms	20ms	10ms	35ms	10ms
Software support	xpterm	xpterm, FTDI VCP Driver	xpterm	xpterm, GSD file	xpterm, National Instruments MAX
Code example	C Java Powershell Python	C Java Powershell Python	Python	-	-
Interface	Sub-D S9	USB	RJ45	Sub-D S9	IEEE 488

General interface data

Main board	Typical values
Resolution of monitors	17 bit + sign bit (default) Profibus 16 bit + sign bit
Update interval of monitors	20ms (default)
Resolution of set values	16 bit including sign bit (default) Max. 22 bit (option, 128ms setting time)
Internal command processing time (without transmission time)	1ms
Temperature coefficient of monitors (interface ADC drift)	3ppm/K (max. 10ppm/K)
Temperature coefficient of set values (interface DAC drift)	3ppm/K (max. 10ppm/K)

Front panel

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

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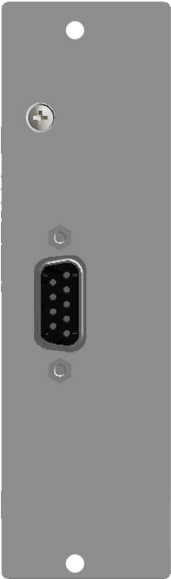LOCAL / ANALOG / DIGITAL programming.

BUSY
LOCAL   DIGITAL
REMOTE
PROGRAMMING

BUSY
LOCAL   DIGITAL
REMOTE   ANALOG
PROGRAMMING

Digital interface options

AC-HVDC
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Rear panel

Digital interfaces

RS485, RS422, RS232	USB	LAN / Ethernet	Profibus	IEEE 488

USB: Rx, Tx

LAN / Ethernet: 10/100 BASE-T IEEE 802.3

Profibus: NODE ADDRESS, x1, x16, SERIAL OK, BUS ERROR

IEEE 488: SRQ, ADDR, x1, x2, x4, x8, x16, ADDRESS, BAUD H/L, MODE 2/1, NORM/TST
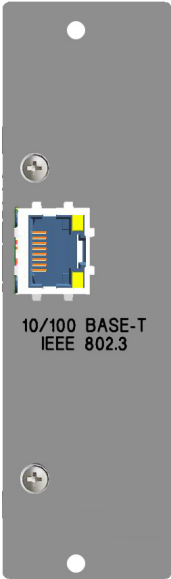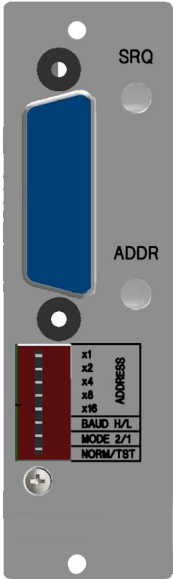
Fiber optic converter to RS232

Tx Rx

Notes:

1. Maximum possible fiber optic length is 20m.
2. A RS232 1 channel data line powered / RPopto-clamp DTE and fiber optic cable are included.

Probus V overview

Probus V is a proprietary command language from XP Power. It has readable ASCII string commands, contains error codes and is easy to implement. CRC is optional.

Example commands for I-Set, I-Mon and BON:

- ▶ Set-Commands:
  - ▶ ">S1 10"
  - ▶ ">BON 1"
- ▶ Queries
  - ▶ ">S1 ?"
  - ▶ ">M1 ?"
  - ▶ ">BON ?"

Example for Ramp up-down:

>bon 1	switch output on
>s0r 1	set slew rate to 1V
>s0b 1	set ramp mode to up/down
>s0 200	set target set-value
>m0 ?	get m0 monitor value
- pause / hold value	
>s0 100	set new target set-value
- pause / hold value	
>bon 0	switch output off

Software

XP Power Terminal (Demo software)

XP Power Terminal provides an easy way to communicate with our power supplies via RS232, USB, Ethernet, Profibus and IEEE488 without having to develop your own software. It is primarily intended to provide a quicker way to get started, to test the command set of our devices or to use their full range of functions.

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