



PGC4842 - Front view

PGC-4842 is a compact device in a 19-inch rack mount chassis for connecting remote terminal units (RTUs) to the control centers of the PSIcontrol system. The PGC-4842 undertakes the task of line monitoring and data preprocessing of telecontrol telegrams transferred in the IP networks.

RTUs are connected to the serial telecontrol interfaces (V24/-TTY/X21). The V.24 bypass function enables the parallel operation of different control systems during the migration.

With its interfaces, the bonding functionality and the redundant power supply, the PGC-4842 ensures the high availability of the entire system. The PGC-4842 stack using up to two sub units can be extended to a maximum of 24 telecontrol interfaces.

### Main functions

- Monitoring of telecontrol lines
- Preprocessing and packeting of telecontrol protocols
- Redundant connection of RTUs and interface computer systems
- Automatic interface passivation in case of line failure
- Redundant power supply via second DC connector (hot standby)
- Dynamic routing with RIPv2 and OSPF

### Application areas

- Gateway between RTUs and control systems
- Function-compatible successor model for
  - TCG 3G-8
  - TCG 3G-4
  - TCG 3G-2
  - TCG 3G-TIG
  - TCG 3G-SU VXT
  - TCG 3G-SU VX
  - TCG 3G-SU VXTe

### Configuration

The user-friendly web interface and the intuitive command line interface (CLI) make for the easy device configuration.

### Security functions

- Hardened system components
- Secure protocols (SSH/SSL, SFTP, HTTPS)
- Firewall configuration
- Deactivation of unused interfaces and services

### Interfaces

- 8x telecontrol interface, selection of interface type (V.24, X.21, EIA-422, EIA-485, TTY, OC) by software configuration
- 6x Ethernet interface
  - 4x 10/100 Mbit/s
  - 2x SFP
- 1x EIA-232 (administration interface)
- Redundant power supply connector

### Options

- IEC-60870-5-104 support
- PCM-UART-over-TCP for connecting RTUs via TCP connections
- VPN tunnel according to IPsec standard with hardware-based, strong encryption
- Additional external power supply units for different voltage ranges and power classes
- Central and redundant power supply for device stack (TCG CPS)

## Technical data

System core (kernel)	
CPU	64 bit quad core ARM cortex A72
Program memory	8 GB eMMC
Memory	1 GB LPDDR4-3200 SDRAM
Security	TPM 2.0 (Trusted Platform Module)
Telecontrol interfaces	
V24 (EIA232)	
Signal conductors	TXD, RXD, RTS, CTS, DTR, DCD, (CLK)
Transmission rate	50 - 57600 Baud
Electrical values	V.28
TTY (bipolar current interface)	
Signal cables	4-wire: T+, T-, R+, R- (duplex mode)
Transmission rate	50 - 19200 Baud
Electrical values	+/-20 mA
X.21 (X.24)	
Signal conductors	T+, T-, R+, R-, S+, S-, C+, C-, I+, I-, X+, X-
Transmission rate	50 - 64000 Baud
Electrical values	X.27
EIA-422	
Signal conductors	T+, T-, R+, R-
Transmission rate	50 - 64000 Baud
Electrical values	V.11
EIA-485	
Signal cables	A, B
Transmission rate	50 - 1000 kBaud
Connector and protocol	
Connector	8P8C (RJ45 socket)
Isolation	1 kV eff.
Protocol types	PCM-UART, PDM, PCM-NON-UART, Modbus-RTU
LAN interfaces	
Type	10BASE-T, 100BASE-TX, 10/100BASE-T, 1000BASE-SX (SFP)
Electrical values	Conforming to IEEE 802.3 Clause 14 and 25, impedance: 100 (symmetrical) and/or Clause 38
Connector	8P8C (RJ45 socket) and/or LC socket
ADM interface	
Electrical values	EIA-232, 38.400 Baud, 8N1
Connector	8P8C (RJ45 socket)

Power connectors	
Connector	2x 3-pin circular connector conforming to IEC 60130-9 (IP 40) with screw locking
Input voltage	2 - 48 VDC ±10%
Power consumption	18 W
Redundancy	Second DC connector (hot standby)
Function indicators (LED)	
System	Operating state SYS Application-specific S1, S2
LAN interfaces	Activity/link status and connection status of connected sub units (connect)
Telecontrol interfaces	Operating mode: <ul style="list-style-type: none"> <li>• V.24/V.24 modem/V.24 in sync</li> <li>• TTY</li> <li>• OC</li> <li>• X.21/X.21-DCE/X.21-DCE-X</li> <li>• 4224WR/422-DCE</li> <li>• 485-2WR</li> <li>• V.24 bypass/V.24 listening</li> </ul> Function indications: <ul style="list-style-type: none"> <li>• M (Mode)</li> <li>• R (Recieve data)</li> <li>• T (Transmit data)</li> <li>• E (Error)</li> </ul>
Mechanics	
Model	19-inch rack mount chassis
Dimensions	446 × 44.45 × 200 mm <sup>3</sup> (w/h/d) conforming to DIN 41494, section 5
Packaging dimensions	54 × 15 × 32 cm <sup>3</sup> (w/h/d)
Weight/gross weight	3.7 kg/4.6 kg
Cooling	Convection cooling

Environment	
Operation	EN 60721-3-3: 1995/A2:1997 class 3K3, 0 °C to +55 °C, 10% to 90% rel. humidity (not condensing)
Max. operating altitude	2000 m
Max. indoor pollution degree	2
Transport	EN 60721-3-2: 1997 class 2K3, -20 °C to +85 °C, 5% to 95% rel. humidity (not condensing)
Storage (in packaging)	EN 60721-3-1: 1997 class 1K3, -20 °C to +85 °C, 5% to 95% rel. humidity (not condensing)

EMV	
Emission	EN55032:2015 EN 50121-4:2016 Class A EN 61000-3-2:2019 EN 61000-3-3:2013
Noise immunity	EN 550121-4:2016 EN55035:2017

Product Safety	
Electrical safety	DIN EN IEC 62368-1:2021-05 Low-voltage directive 2014/35/EU
Conformity	CE

Optional accessories	
Power adapter (WPS-AAC1)	
Model	Plug-in adapter
Primary voltage	100 ... 240 VAC/50 ... 60 Hz
Secondary voltage	15 VDC (controlled)
Nominal power	18 W, current limited, short-circuit proof
Primary connector	Exchange system EU, GB, US/J, AUS, IEC 320
Cable length	approx. 2 m
Service life	200,000 hours MTBF at 25 °C
Power adapter for redundant operation (WPS-BAC1)	
Model	Plug-in adapter
Primary voltage	100 - 240 VAC/50 - 60 Hz
Secondary voltage	12 VDC
Nominal power	18 W, current limited, short-circuit proof
Primary connector	Exchange system EU, GB, US/J, AUS, IEC 320
Cable length	approx. 2 m
Service life	200,000 hours MTBF at 25 °C
Central power supply PGC-CPS	
Central, redundant power supply for device stack (see data sheet PGC-CPS)	

Further power adapters, memory expansions and SFP modules are available on request.

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