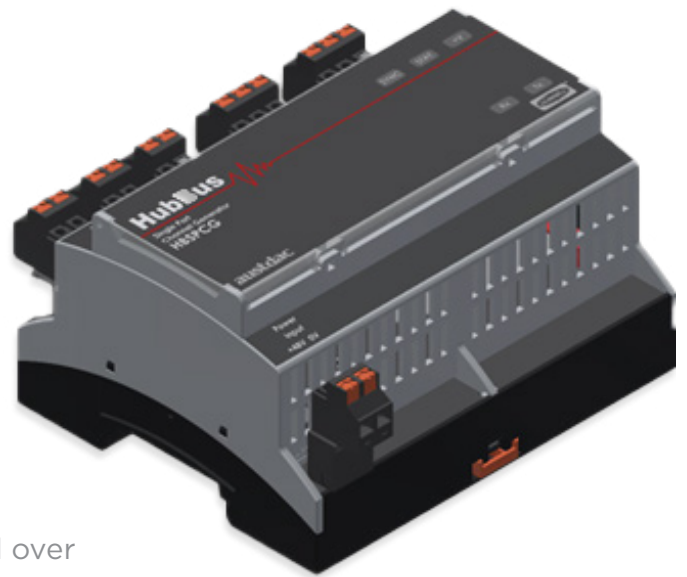


# HubBus Single Port Channel Generator

## Type HBSPCG



- ✓ IEC61508 Certified by TÜV
- ✓ Pluggable connectors (screw/spring cage option with horizontal/vertical wire entry)
- ✓ Up to 2048 addressable channels
- ✓ Over 320 line powered devices
- ✓ Networks of over 16km
- ✓ Line fault monitoring including short circuit and over current protection with automatic recovery
- ✓ Dual inbound signal detection<sup>1</sup>
- ✓ Configurable bandwidth<sup>2</sup>
- ✓ Supports exception handling for quick response time<sup>3</sup>

The Single Port Channel Generator Type HBSPCG is a self-contained DIN rail mounted unit. It provides for 64 through to 2048 channels, in 64 channel increments. Each channel can be used for digital or analogue data, in addition channels may be grouped for increased response rate for analogue data transmission.

Signalling and power are provided for a minimum of 320 field devices or transmitters for network lengths of at least 16km on unscreened twisted pair cable.

The HubBus Channel Generator is the backbone of the HubBus distributed I/O network. Its strength is not only in the number of devices and distance covered but in the robustness of the underlying network technology that overcomes the harsh environments that the network is expected to operate in. This includes noise from variable frequency drives and large switching transients.

Some of these advanced features include:

- Dual inbound signal detection<sup>1</sup>
- Configurable bandwidth with auto sensing by the line devices<sup>2</sup>

The HBSPCG provides continuous monitoring for HubBus line faults including short circuit and over current protection with automatic reset with the fault condition clears.

For simplification of wiring a DIN rail communication bus may be used locally with other modules. The DIN rail bus carries power, HubBus signal line and Modbus data.

Provides interface from PLC or HMI to HubBus via Modbus over RS485.

Maintenance and repair are made easier along with the reduced possibility of wiring faults with the use of pluggable connectors which are available with screw or spring cage terminals and horizontal or vertical wire entry.

Maintenance is also improved easy to read LEDs with common layout across the whole module range which show communication, power and line status at a quick glance in addition to a quick open flip top lid to access the programming port.

Any of the HBSPCG parameters can be conveniently configured using the battery powered handheld HubBus Universal Programmer and Tester Type HHP1-H.

Due to the increased network length and number of devices there is an increase in devices response times. To overcome this, the system supports an exception handling protocol for improved response times<sup>^</sup>.

Advanced metrics available with additional monitoring software include long term fault analysis and device response time for system mapping.

### Notes

- 1 Patent US10552361B2
- 2 Patent EP3383772B1
- 3 Patent US10691092B2

### Certification

- UL61010-1 (Safety) [E471953]
- CAN/CSA-C22.2 No. 61010-1 (Safety) [70189567]
- IEC61000-6-4 (Emissions)
- IEC61000-6-2 (Immunity-Industrial Environments)
- IEC61000-6-7 (Immunity-Functional Safety)
- IEC60068-2-1 & IEC60068-2-2 (Environmental)
- IEC60068-2-6 (Vibration)
- IEC61508 (Funct. Safety) [TÜV 968/FSP 2175.00/20]

## Specifications

General	
Name	HubBus Single Port Channel Generator
Type	HBSPCG

Interface	
Number of HubBus ports	1 driver with dual line detection circuits
Number of HubBus terminals	3
Bus channels	64 to 2048 (with 64 channel increments)
BUS PROTOCOL	Dual pulse alternating on cycles
Display	Optional external touchscreen (HMI)
RS485 [Main]	Modbus 2 wire (isolated port)
RS485 [Auxiliary]	Modbus 2 wire (isolated port)
Configuration	TTL

Physical	
Dimensions	108 (W) x 63 (D) x 90 (H) mm 4.25 x 2.48 x 3.54 inches
Mass	170g / 6 ounces
Mounting	DIN EN 60715 / TS35
Ingress protection	IP20

Environment	
Operating Temperature	-20°C to 50°C / -4°F to 122°F
Operating relative humidity	10% to 90% Non-condensing

Electrical	
Bus voltage	24-48VDC (p-p)
Unit loads (minimum)	320 (over 16km/10 miles)
Bus current limit	1A (auto reset)
Bus speed	Adjustable (1.2ms to 4.8ms/pulse)
Power supply voltage	24-48VDC
Power supply current	5A

Status Indicators	
Significant Event Log	2MB (65,000 event) rotary buffer
Modbus Activity	2 front panel LED
Controller Health	1 front panel LED
Power Health	1 front panel LED
Bus Health	1 front panel LED

## Safety Data

See HubBus Safety Manual 125-267-12 for details.

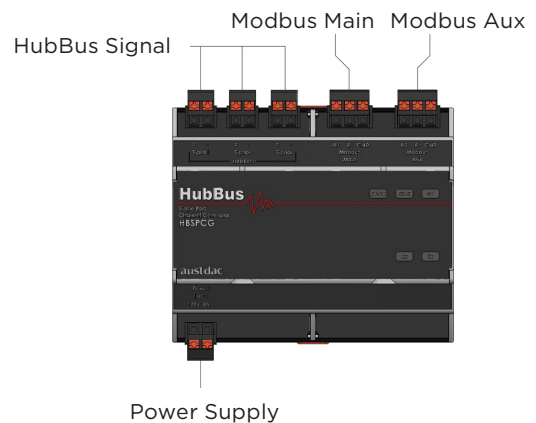
HBSPCG	
SIL	2
HFT	0
SFF	98.96%
PFDavg	$1.07 \times 10^{-4}$
PFH (1/h)	$2.45 \times 10^{-8}$
Proof test interval	12 months



## Terminals

HBSPCG					
17	+48V	Power In	HubBus	Signal+	1
18	0V			Signal-	2
			HubBus	Signal+	4
				Signal-	5
			HubBus	Signal+	7
				Signal-	8
			RS485 MAIN	A+	9
				B-	10
				COM	11
			RS485 AUX	A+	14
				B-	15
				COM	16

## Ordering Details



## Ordering Details

Description	Order code
HubBus Single Port Channel Generator	HBSPCG



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 Head Office / Australia Wide | +1 800 568 984  
 International / Pittsburgh | +1 888 254 9155  
[www.hubbell.com/austdac](http://www.hubbell.com/austdac)