

## Bus Controller

# MOD BUS Creator

Product code: PW-120-X



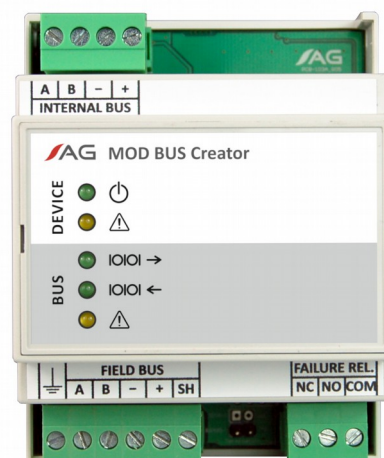
**Reliability**



**Integrity**



**Innovations**

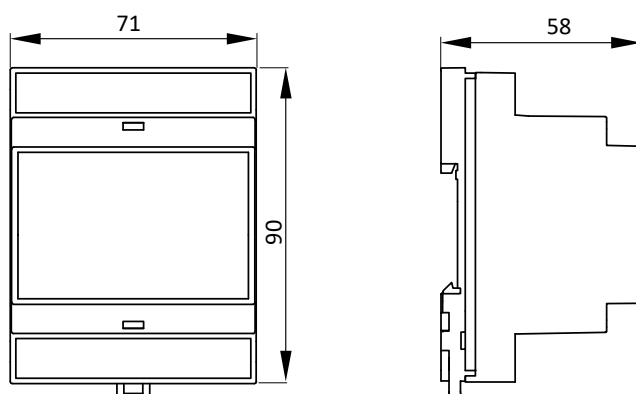


## General information

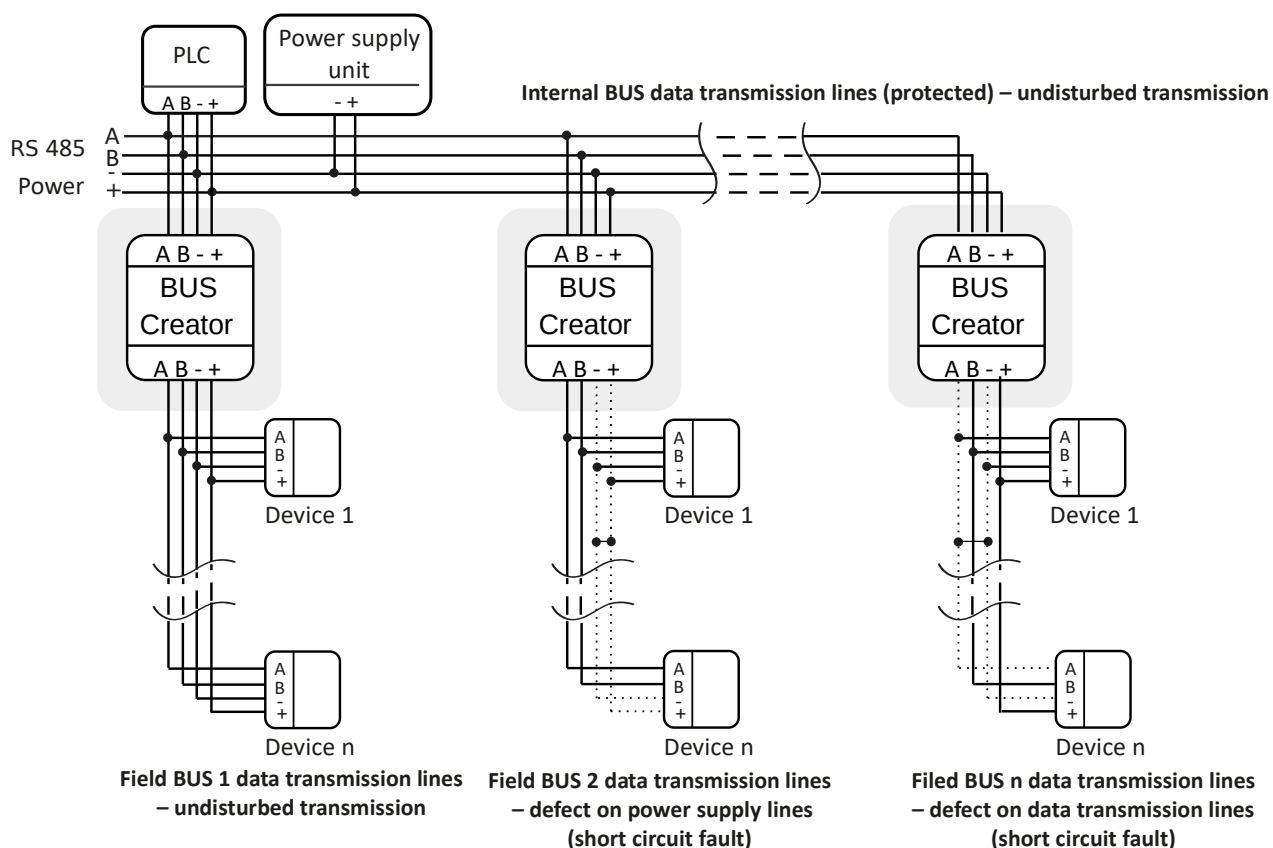
The Bus Controller MOD BUS Creator is designed to partly resolve the foregoing problems by structuring (chopping) an entire system into small portions with an isolated local data bus in each portion. Such local sections of the data transmission bus can operate, depending on the device option, according to the RS-485 standard interface (PW-120-485 unit) or Teta interface (PW-120-T unit). Each local section of the data bus has its separate, adjustable protection means for protection against overloads and voltage surges and is provided with logic separation for data transmission lines. In case of a physical defect of a data bus wire or a failure of any device connected to a bus section governed by MOD BUS Creator only a portion of the system is endangered to become inoperable. The control module carries out validation and filtration of data received from the data bus and cuts off power voltage if a short fault or sparking takes place.

In addition, the Field BUS port of the device offers enhanced immunity to electromagnetic interferences (in particular, voltage surges), hence systems that use that port for field communication are better protected against consequences of surges caused, for instance, by lightning effects..

## Dimension



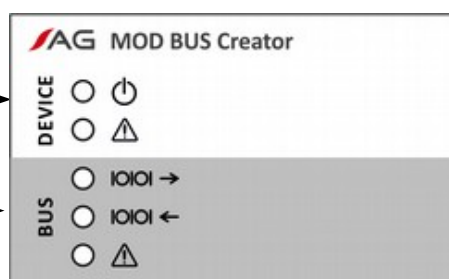
## Location and role of the device in Gas Safety System



## User interface

Indication of the device status









Status indication for Field BUS data transmission port



### DEVICE area


Indicator	Status / colour	Information
⏻	● / green	Current operation of the device
	● / green	Continuous blinking – device in configuration mode
	○	Failure
⚠	● / yellow	1 blink – incorrect configuration
	● / yellow	2 blinks – incorrect supply voltage
	● / yellow	Continuous blinking – internal overheating
	● / yellow	Other failures of device


## BUS area

Indicator	Status / colour	Information
IOIOI →		No data transmission to the Field BUS port
	 / green	Information is transmitted to the Field BUS port
IOIOI ←		No data transmission from the Field BUS port
	 / green	Information is received from the Field BUS port
		Data lines of the Field BUS port are OK (no failure)
	 / yellow	Continuous blinking – high intensity of distorted data frames received by the Field BUS port although no overload or short fault on the power supply outputs are detected
	 / yellow	Overload status or a short fault is detected on the power supply outputs

## Electric interface

A	B	-	+
INTERNAL BUS			

	FIELD BUS					FAILURE REL.		
	A	B	-	+	SH	NC	NO	COM

Name	Terminal	Description
INTERNAL BUS		Port for system communication to exchange data with the controller and the FIELD BUS port
	A	Signal line A (RS+)
	B	Signal line B (RS-)
	-	Negative
	+	Positive
		Earthing terminal (connection to a local earthing is recommended to achieve reliable protection against voltage surges)

Name	Terminal	Description
FIELD BUS		Communication port for devices connected to the FIELD BUS lines
	A	Signal line A (RS+). Not used for Teta BUS interface
	B	Signal line B (RS-). Not used for Teta BUS interface
	-	Negative
	+	Positive
	SH	Cable shield to be connected to an earthing terminal inside the device.
FAILURE REL.		Port for a failure relay
	NO	Normally open contact of the relay
	NC	Normally closed contact of the relay
	COM	Common contact of the relay

## Technical specification

<b>Power supply</b> <ul style="list-style-type: none"> <li>Voltage <math>V_{cc}</math></li> <li>Current</li> </ul>	12 – 50 V $\overline{\text{---}}$ 6.5 A (PW-120-485), 4 A (PW-120-T)
<b>Environment</b> <ul style="list-style-type: none"> <li>Ambient temperatures</li> <li>Humidity</li> </ul>	-20 – 40 °C 10 – 90% long term 0 – 99% short term 1013 ± 10% hPa
<b>IP</b>	IP20
<b>Parameters of analog outputs</b> <ul style="list-style-type: none"> <li>Relay</li> </ul>	Floating contacts, NO/NC: AC1:120 V $\sim$ / 1 A DC1: 24 V $\overline{\text{---}}$ / 1 A Not protected
<b>Digital communication parameters</b> <ul style="list-style-type: none"> <li>Internal BUS port <ul style="list-style-type: none"> <li>Electric standard</li> <li>Communication protocol</li> <li>Transmission rates</li> <li>Parity</li> <li>Number of bits</li> </ul> </li> </ul>	RS-485 Any, Modbus RTU (depend of device configuration) 1 000, 1 200, 2 400, 4 800, 9600, 19 200, 38 400, 57 600, 115 200 Bd No parity / even parity/ odd parity 7/8
<ul style="list-style-type: none"> <li>Port Field BUS <ul style="list-style-type: none"> <li>Electric standard</li> <li>Communication protocol</li> <li>Transmission rates</li> <li>Parity</li> <li>Number of bits</li> </ul> </li> </ul>	RS-485 or Teta BUS (depend of device version) Any, Teta BUS (depend of device version) 1 000, 1 200, 2 400, 4 800, 9600, 19 200, 38 400, 57 600, 115 200 Bd No parity / even parity/ odd parity 7/8
<b>Enhanced immunity to electromagnetic interferences</b> <ul style="list-style-type: none"> <li>Field BUS port</li> </ul>	Immunity to electric surges: 4 kV line-to-earth surges, ±2.5 kV line-to-line surges acc. to PN-EN 50270:2015 Mandatory condition: earthing terminal connected to an earthing circuit
<b>Integrated signalling equipment (visual)</b>	LED controls
<b>Protection class</b>	III
<b>Cable glands (cable diameter range)</b>	0.08 – 2.5 mm <sup>2</sup> (cable lugs 2 x 1 mm <sup>2</sup> or 2 x 0.75 mm <sup>2</sup> should be used for double wires)
<b>Enclosure material</b>	Self-extinguishing PPO
<b>Weight</b>	0.3 kg
<b>Mounting</b>	DIN-35 / TS35

## Product marking

Product code	Device
PW-120-485	MOD BUS Creator Bus Controller with RS-485 interface
PW-120-T	MOD BUS Creator Bus Controller with Teta interface

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