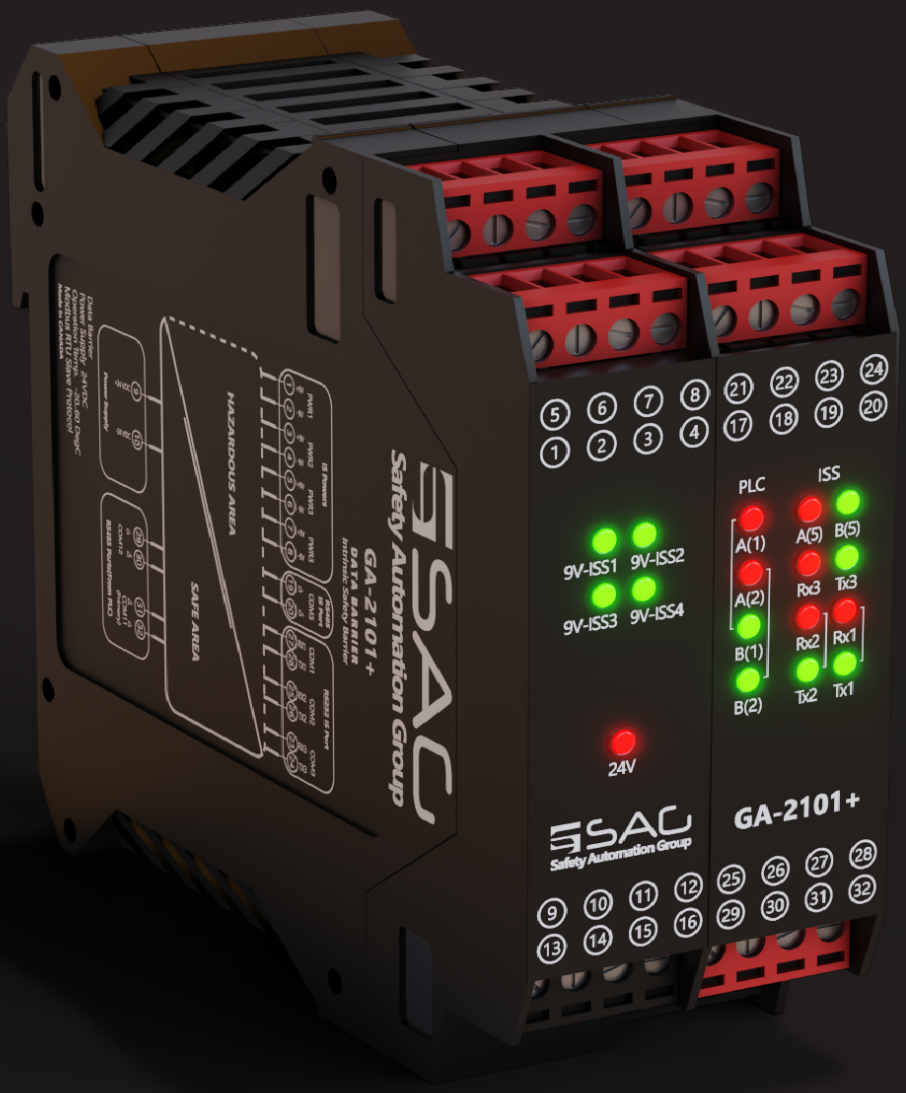
Intrinsic Safety Barrier

DATA Barrier



Safety Automation Group

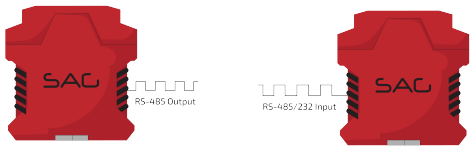
GA-2101+

Data Intrinsic Safety Barrier

Safety Automation Group

- Data Signal Type
- 3x Isolated RS-232
- 1x Isolated RS-485
- RS-232,RS-485 Interface
- Support Modbus RTU Protocol
- Configurable with Modbus Protocol
- Connection with Screw Terminals

Product Features

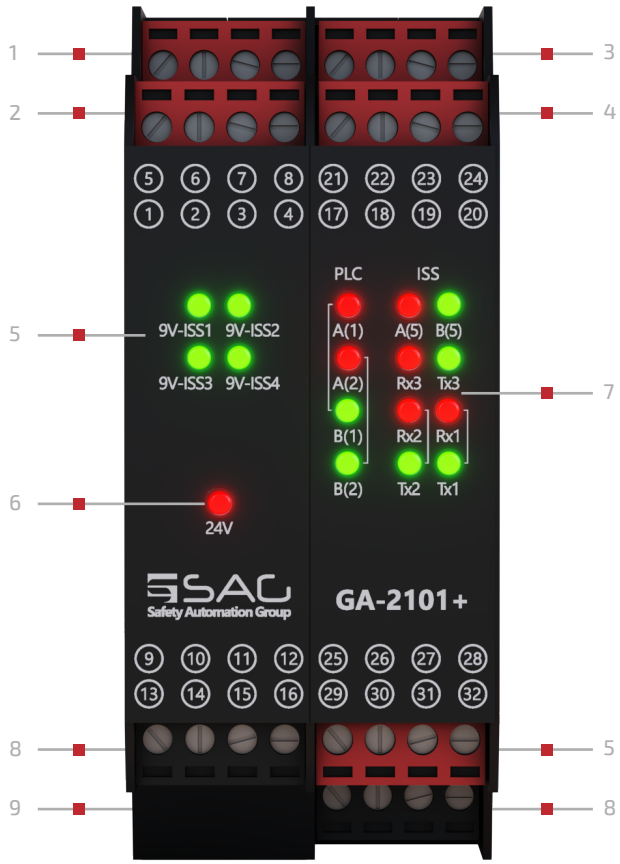


Modbus RTU

GA-2101+ barrier is a communication bridge that sits between EVCDs or correctors and controllers like PLCs and RTUs. It can communicate with a hazardous area via three RS232 and one RS485 serial ports. And it can transfer the collected data to the safe field through a two port RS485 interface. The most significant feature of this device, is that all these information exchanges are done through MODBUS, with a bit rate of up to 115.2 kbps via the previously mentioned serial ports. This makes the GA-2101+ barrier ideal for convenient, remote monitoring from a safe area.The GA-2101+ barrier is able to make contact with common corrector vendors such as the VemmTech, RMG, and Course. However, it can also communicate with other corrector vendors outside of this list, by defining a custom device with the RS485/ RS232 MODBUS RTU standard.

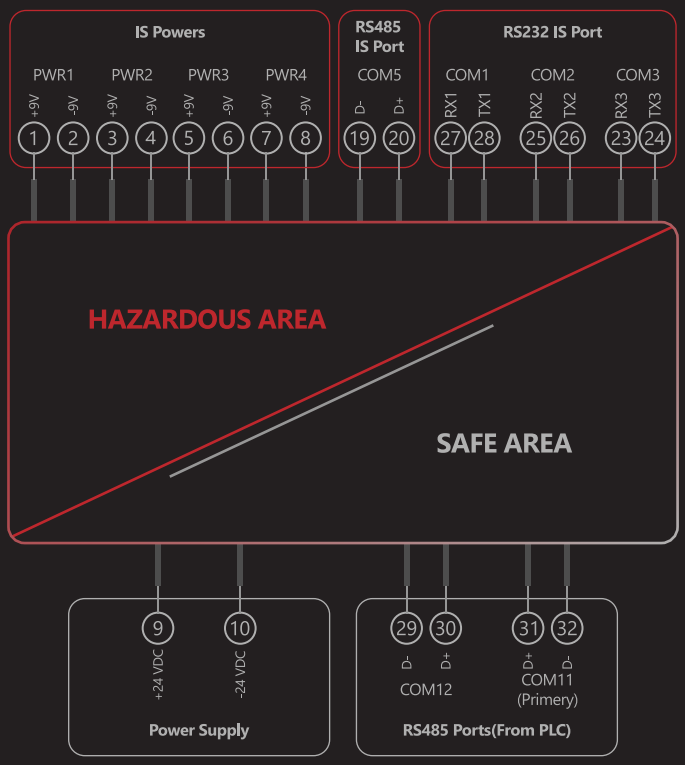
The SAG GA-2101+ barrier has an operating temperature of -20 to +60 °C, a 24V DC power supply, and is able to power four isolated safe voltage channels in the range of 0-9 volts.transfers via the Modbus, or reproduce loop power in the safe area.

Front View



1. Isolated Power 3,4
2. Isolated Power 1,2
3. RS-232 Isolated Ports
4. RS-485 Isolated Ports
5. Power Isolation LEDs
6. 24 VDC LEDs
7. Communication LEDs
8. Power Supply Terminal
9. CAP
10. RS-232 Isolated Ports
11. RS-485 Control Side Ports

Connection View



GA-2101+ Data Barrier PIN Configuration

1. +9V IS Power 1	20. RS-485 IS Port (D-)
2. -9V IS Power 1	23. RS-232 IS Port (COM3 RX)
3. +9V IS Power 2	24. RS-232 IS Port (COM3 TX)
4. -9V IS Power 2	25. RS-232 IS Port (COM2 RX)
5. +9V IS Power 3	26. RS-232 IS Port (COM2 TX)
6. -9V IS Power 3	27. RS-232 IS Port (COM1 RX)
7. +9V IS Power 4	28. RS-232 IS Port (COM2 TX)
8. -9V IS Power	29. RS-485 Ports (COM12 D-)
9. +24 VDC	30. RS-485 Ports (COM12 D+)
10. -24 VDC	31. RS-485 Ports (COM11 D+)
19. RS-485 IS Port (D+)	32. RS-485 Ports (COM12 D-)

Data Intrinsic Safety Barrier

TECHNICAL DATA

GA-2101+

GENERAL SPECIFICATION

Signal Type	Data
Number of Channels	3x Isolated RS-232, 1x Isolated RS-485 (Field Side)

SUPPLY

Rated Voltage	24 VDC Nom (20-30 VDC) Reverse Polarity Protected
Connection	Terminal 9 (+24 VDC), Terminal 10 (GND)
Power Dissipation	< 1 W
Current Consumption	Approx. 208mA
Max. Power Consumption	5 W

INPUT/OUTPUT I.S. HAZARDOUS AREA

Input	3xRS-232, 1xRS-485, 4x Isolated Power (9V)
Connection	Terminals 19(D-),20(D+),23(RX3),24(TX3),25(RX2),26(TX2),27(RX1),28(TX1)
Connection Side	Field Side
Transmission speed	1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 38.4, 57.6, 93.75, 115.2 Mbit/s

OUTPUT/INPUT SAFE AREA

Output	2x RS-485 , 4x Isolated Power (9V)
Connection	Terminals 1(+9V PWR 1),2(-9V PWR 1),3(+9V PWR 2),4(-9V PWR 2), 5(+9V PWR 3),6(-9V PWR3),7(+9V PWR 1),8(-9V PWR1)
Connection Side	Control Side
RS485 Transmission speed:	1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 38.4, 57.6, 93.75, 115.2 Mbit/s
Transmission cable length	≤ 15 m up to 115.2 Kbit/s.

MOUNTING

Mounting	On 35 mm DIN Mounting Rail Acc. to EN 60715:2001

ENVIRONMENTAL CONDITIONS

Operation Temperature	Temperature Limits –20 to +60 °C
Storage Temperature	Temperature Limits –25 to +65 °C

APPROVALS

IEC60079-0, IEC60079-11

LOCATION

SAG B 2101L+ is an isolation safety interface including intrinsic safety barrier installed in non-hazardous area tosend and receive RS232 and RS485 signals, and also to supply power for intrinsic safety apparatus installed in hazardous area.

Data Intrinsic Safety Barrier

TECHNICAL DATA

GA-2101+

SAFETY DESCRIPTION

ATEX	[Ex ia Ga] IIC LCIE 16 ATEX 3036 X

ASSOCIATED ELECTRICAL APPRATUS

Terminal (9,10)	Um: 24 V, Im: 250 mA (With DC linear power supply) Um: 24 V (With DC non-linear power supply)
Terminal (29,30), (31,32)	Um: 24 V
Terminal (1,2), (3,4), (5,6), (7,8)	Uo: 15.4 V; Io: 190 mA; Po: 1.14 W; Co: 410 nF; Lo: 980 µH (With DC linear power supply) Uo: 15.4 V; Io: 800 mA; Po: 4.8 W; Co: 410 nF; Lo: 56 µH (With DC non-linear power supply)
Terminal (23,24), (25,26), (27,28), (19,20)	Uo: 15.4 V; Io: 44 mA; Po: 170 mW; Co: 520 nF; Lo: 18.36 mH

SAG
Safety Automation Group

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