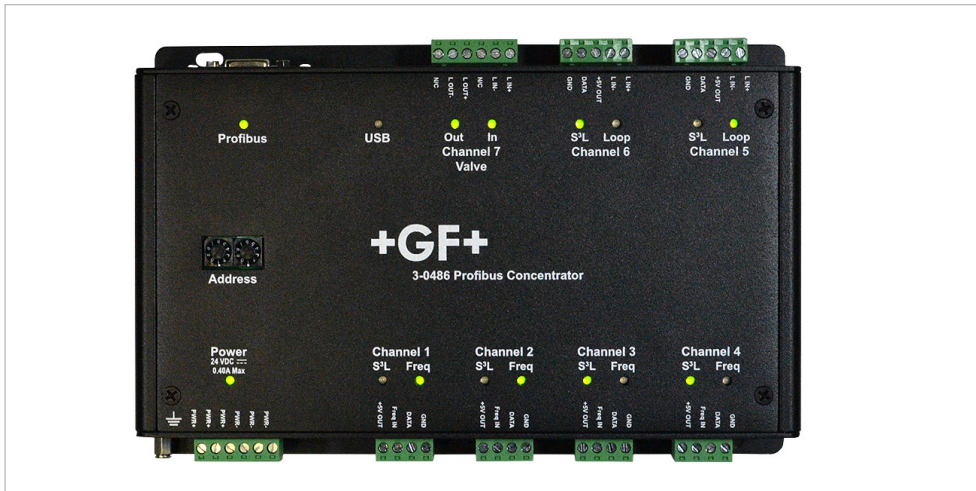


## Type 0486 Profibus Concentrator



### Product description

The type 0486 Profibus Concentrator allows for simplified connection of GF sensors to a PROFIBUS network. The 0486 supports six sensor interfaces and a 4 to 20 mA current loop proportional valve interface. The 0486 supports PROFIBUS DPV1 and is available with either DB9 or M12 network connectors.

The 0486 sensor interfaces are multifunctional. All six inputs are compatible with GF digital (S<sup>3</sup>L) sensors, four inputs are compatible with frequency output flow sensors, and two inputs are compatible with 4 to 20 mA current loops. The 0486 PLC interface allows for complete control of the GF sensors. The programmer is able to configure the sensor for the specific needs of their application, read measurements in engineering units, and gather diagnostic data to ensure accuracy and correctness of readings.

In addition to interfacing to GF sensors the six (S<sup>3</sup>L) inputs will also support the 8059 four channel relay module allowing for on/off control of GF valves or other devices. Up to six 8059 can be connected to a single 0486 giving the user the ability to control 24 on/off devices.

The proportional valve interface is designed to interface with Georg Fischer electric and pneumatic actuators offering proportional valve positioning control or other 4 to 20 mA current loop devices. The interface will send a 4 to 20 mA current loop to the proportional interface, and read back a 4 to 20 mA current loop signal from the valve to ensure proper valve positioning.

Fail-safe control of valves is built into the 0486. The programmer is able to configure the state of each individual relay, off or on, and the current level of the proportional valve interface in case of communications disruption. This will ensure that the system will fail in a safe, known state.

The 0486 supports diagnostic messaging for the sensors; the programmer can read the state of each sensor to ensure control is based on accurate readings. Mis-wiring, probe failure, or other events will be reported back to the PLC for proper handling and alerting.

## Features

- Interface six GF sensor or relay modules and a proportional valve to a PROFIBUS network with a single service
- Four channels support (S<sup>3</sup>L) or flow frequency devices
- Two channels support (S<sup>3</sup>L) or 4 to 20 mA current loops
- One channel for dedicated 4 to 20 mA current loop input and output. Ideal for proportional valve control or other current loop uses.
- Support for PROFIBUS DP V1 and DP V0
  - Supports 9.6K to 12M bits/second network speeds
  - System and sensor diagnostic support (DP V1)
  - Fail-safe for 8059 Relay Modules and proportional valve outputs on communication failure
- Simplifies the programming of sensors, saving programming time and reducing errors.
- Convenient DIN Rail or surface mountable enclosure



## Applications

- Automation Upgrades
- Filter and RO Skids
- Neutralization Systems
- Water and Wastewater Treatment
- Pool and Spa Control
- Aquatic Animal Life Support Systems and Aquaculture

## Specifications

### General

Channels	4 channels digital (S <sup>3</sup> L) or frequency input (open collector or sinusoidal) 2 channels digital (S <sup>3</sup> L) or 4 to 20 mA current loop 1 channel 4 to 20 mA current loop input/output for valve positioning or current loop uses
Accuracy	Frequency, accuracy $\pm 0.5\%$ of reading max error @ 25 °C, resolution 1 $\mu$ S 4 to 20 mA current loop input, accuracy $\pm 32 \mu$ A @ 25 °C, resolution 16 $\mu$ A 4 to 20 mA current loop output, accuracy $\pm 32 \mu$ A @ 25 °C, resolution 6 $\mu$ A
Terminal Plug type	Pluggable screw types, 24 to 12 AWG
<b>Enclosure</b>	
Material	Aluminum 6063 T3 and 5052 H32 powder coated
Mounting	Surface (not included) 35 mm DIN rail mounts (included)
<b>Input Power</b>	
DC	24 VDC $\pm 10\%$ @ 10 W max., 0.40 A max. External Surge Protection is Required, 2KV Common Mode, 1KV Differential Mode.
<b>Input Specifications</b>	
Digital (S <sup>3</sup> L)	Channels 1, 2, 3, 4, 5 and 6
Output Power	5 VDC regulated @ 20 mA
Overcurrent Protected	Each channel independently protected A short on a channel will not impair the other channels
<b>Frequency</b>	
Range	Channels 1, 2, 3 and 4 1 to 1'300 Hz

## 4 to 20 mA Current Loop Input Channels 5, 6 and 7

Maximum Voltage	40 VDC
Maximum Current	40 mA
Maximum Voltage Drop	5 VDC
Minimum Update Rate	100 mS
Reverse Voltage and Over Current Protected	

## Output Specifications

### 4 to 20 mA Current Loop Input Channel 7

Maximum Excitation Voltage	24 VDC
Minimum Excitation Voltage	12 VDC
Maximum Resistance	250 $\Omega$ @ 12 VDC
	500 $\Omega$ @ 18 VDC
	750 $\Omega$ @ 24 VDC
Minimum Update Rate	100 mS

## Environmental

Operating Temperature	-10 °C to 70 °C	14 °F to 158 °F
Storage Temperature	-20 °C to 85 °C	-4 °F to 185 °F
Relative Humidity	5 to 95% non-condensing	

## Profibus

Output Signal	Profibus-DP V1 according to IEC 61158-2
DP Function	Slave
Transfer Rates	9.6 kbps to 12 Mbps
Signal Coding	NRZ Code
Physical Layer	RS 485
Connection 3-0486-D	9-pin D-sub female connector
Connection 3-0486-M	M12 connector (Special Order)

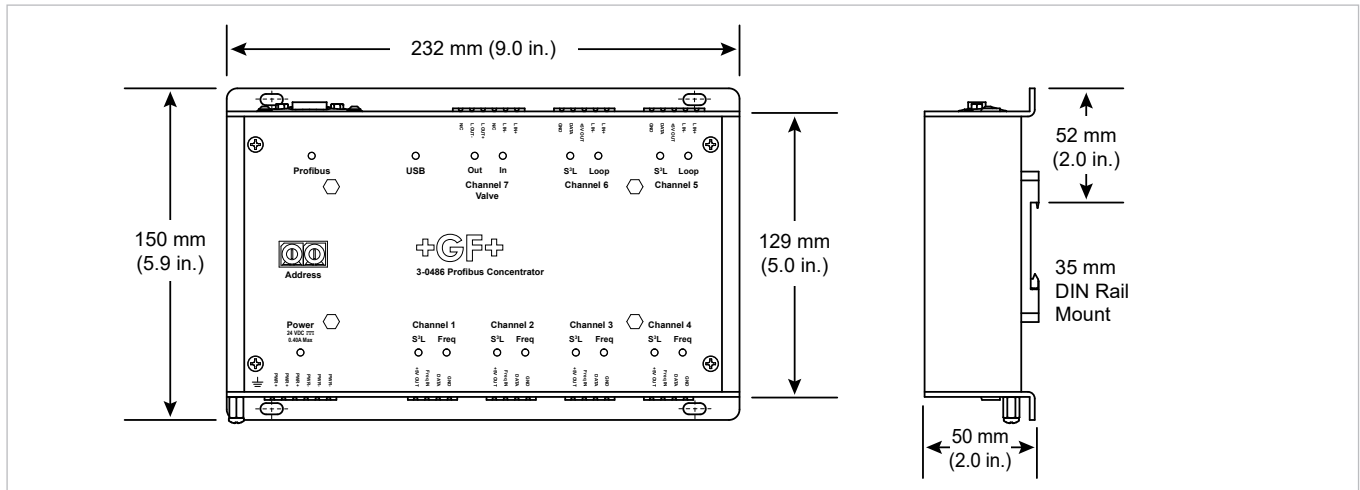
## Shipping Weight

1.4 kg	3.0 lb
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## Standard and Approvals

CE, UKCA, RoHS compliant, China RoHS
Profibus Certified
Manufactured under ISO 9001 for Quality
Safety: UL 61010-1, CAN/CAS-C22.2 No. 61010-1, IEC 61010-1:2010
EMC: EN 61000-6-3:2007+A1, IEC 61000-6-3:2006+A1, FCC 15.107 Class B, FCC 15.109 Class B, FCC 15.109(g) Class B, EN 61000-6-2

## Dimensions



## Support

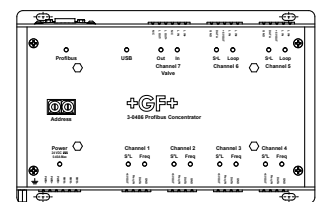
- 2250 Hydrostatic Level
- 2350 Temperature
- 2450 Pressure or Hydrostatic Level
- 515, 525, 2536, 2540, 2000, 2100, 2507, 2551 or 2552 Flow
- 2610-51 Dissolved Oxygen
- 2751 pH/ORP Smart Sensor Electronics
- 2850 Conductivity
- 8058 iGo Signal Converter
- 2581 FlowtraMag
- 8059 Relay Module
- PPA04-80, PA30-90 Pneumatic Actuators with Pilot Valve
- 5-Series DIASTAR Pneumatically Actuated Diaphragm Valves On/Off Control (requires 8059)
- EA15, 25, 45, 120 or 250 Electric Actuator On/Off Control and type 104 Electrically Actuated Ball Valves (requires 8059)
- Electropneumatic positioner type SPC/RPC

## Ordering Information

Mfr. Part No	Code	Description
3-0486-D	159 001 839	DB9 Profibus Concentrator
Special Order Options - Please consult the factory		
3-0486-M		Profibus Concentrator with M12 connector

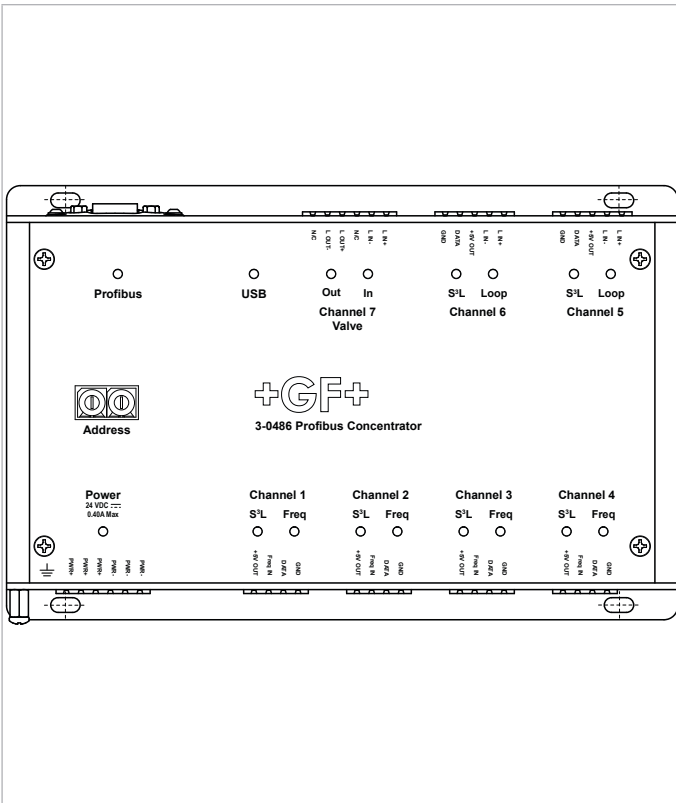
## Accessories and Replacement Parts

Mfr. Part No	Code	Description
6682-1104	159 001 712	Loop power plug, 4-pos, right angle
6682-0051	159 866 089	Terminal block plug, 5-pos
6682-0061	159 866 090	Terminal block plug, 6-pos
3-0486.390	159 310 266	Profibus DIN mount kit (two DIN mount plates and six screws)



## Wiring information

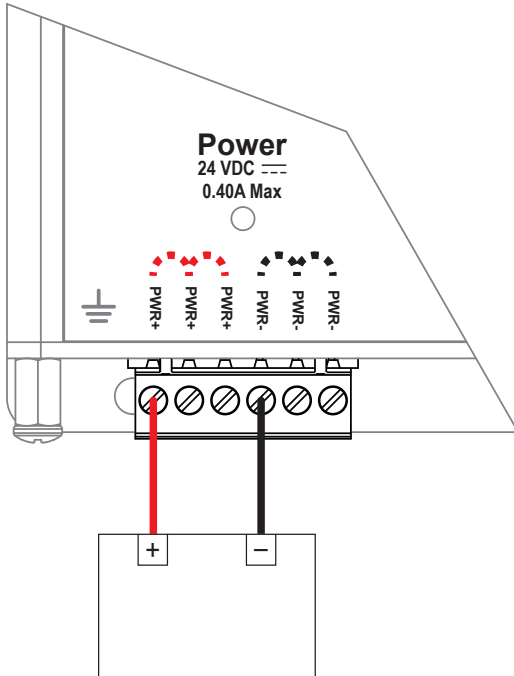
### 0486 Profibus Concentrator



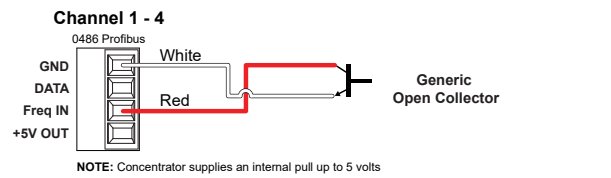
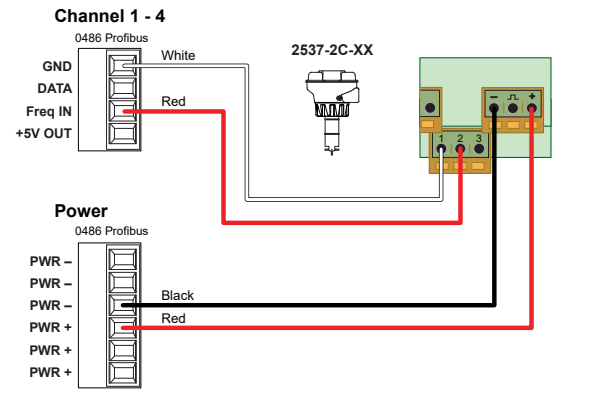
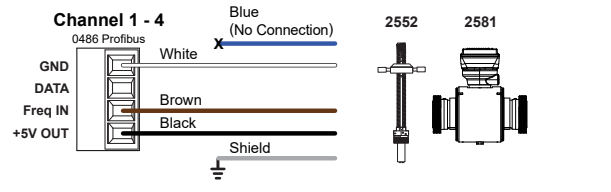
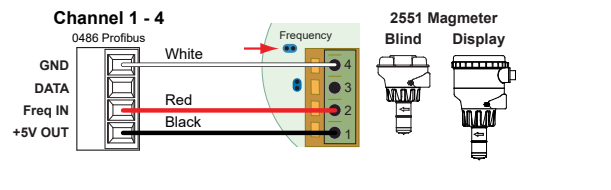
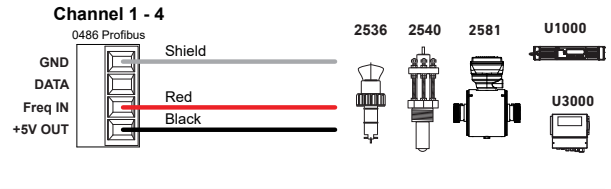
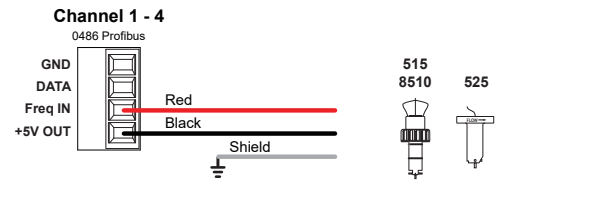
#### Power - 24 VDC ±10% Regulated

PWR - terminal ports are internally bonded.

PWR + terminal ports are internally bonded.



### Frequency Flow Sensors (Channels 1, 2, 3, and 4)



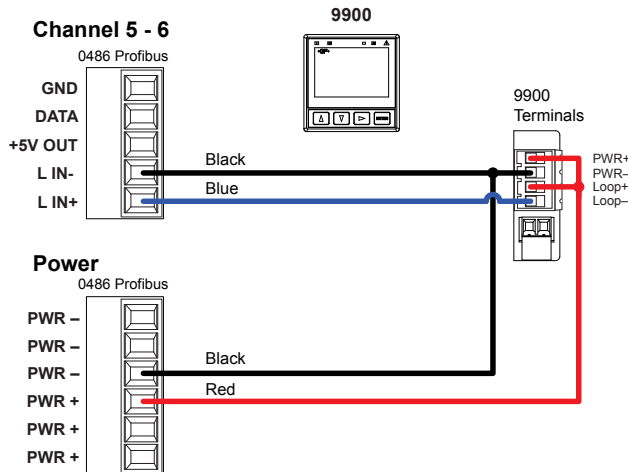
## Current Loop Input (Channels 5 and 6)

Compatible Devices 4 to 20 mA versions of GF sensors, other Current Loop devices

NOTE: For 4 to 20 mA versions of GF sensors, refer to the appropriate manual for wiring instructions.

Channel 5, 6

### Passive 4 to 20 mA Current Loop Input

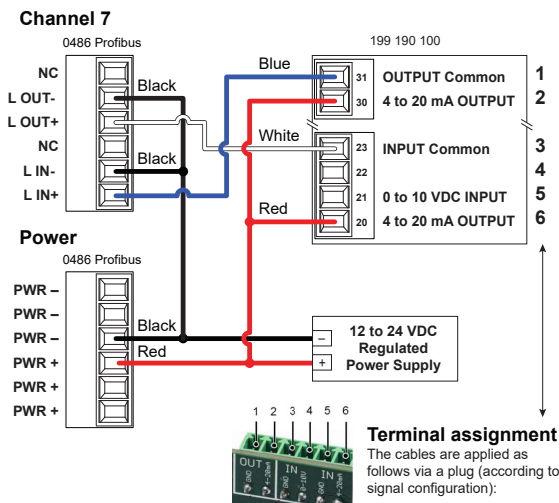


## Current Loop Input & Output (Channel 7)

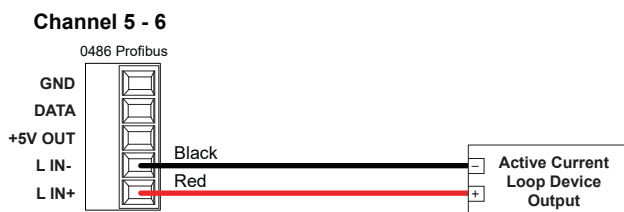
Compatible Devices PE-25 (EA21, EA31, EA42), Current Loop Input and Output Devices

Channel 7

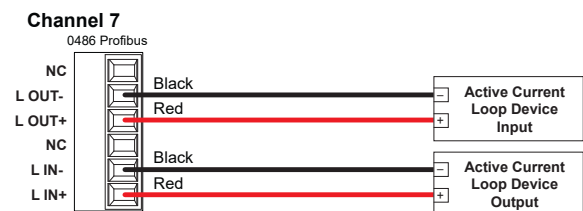
### Passive PE 25 Valve Positioner Wiring



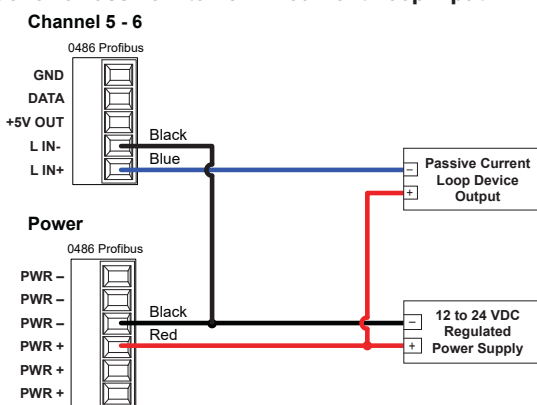
### Generic Active 4 to 20 mA Current Loop Input



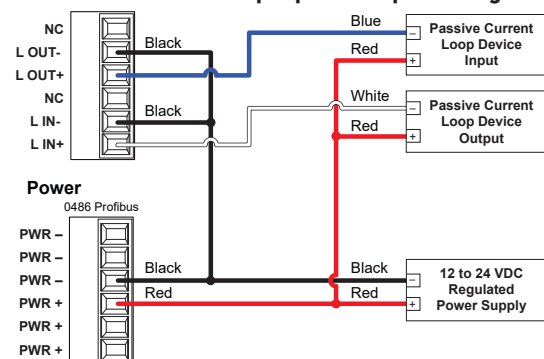
### Generic Active Current Loop Input & Output Wiring



### Generic Passive 4 to 20 mA Current Loop Input



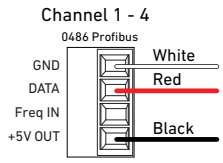
### Generic Passive Current Loop Input & Output Wiring



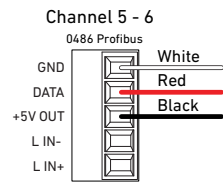
## (S<sup>3</sup>L) Devices (Channels 1, 2, 3, 4, 5, and 6)

### Compatible Sensors:

2250, 2350, 2450, 2551, 2552, 2751, 2850, and 8058



**OR**

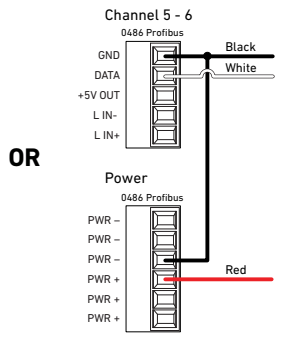
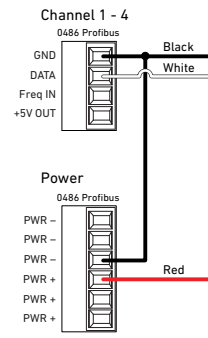
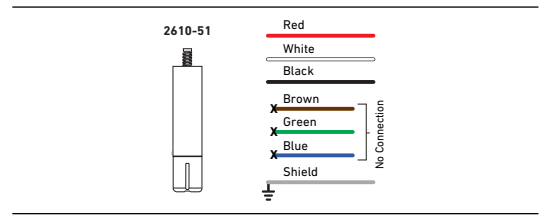


2581 wiring to 0486 Profibus Concentrator

Refer to the 0486 Profibus Concentrator manual for Frequency wiring and programming instructions.

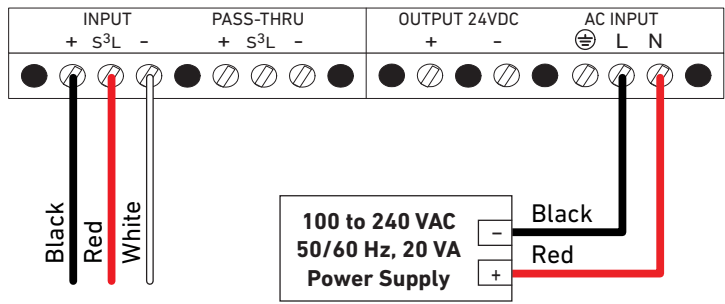
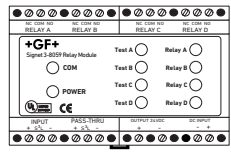
### Compatible Sensor: 8059

### 2610-51 Dissolved Oxygen Sensor

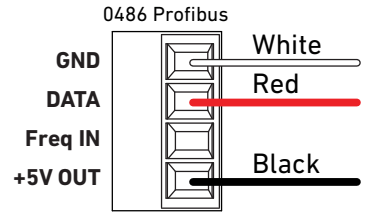


**OR**

### 8059-4AC

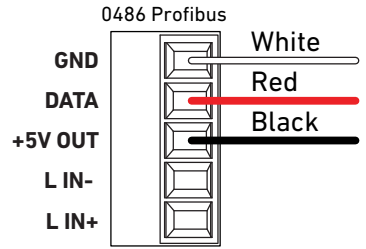


### Channel 1 - 4



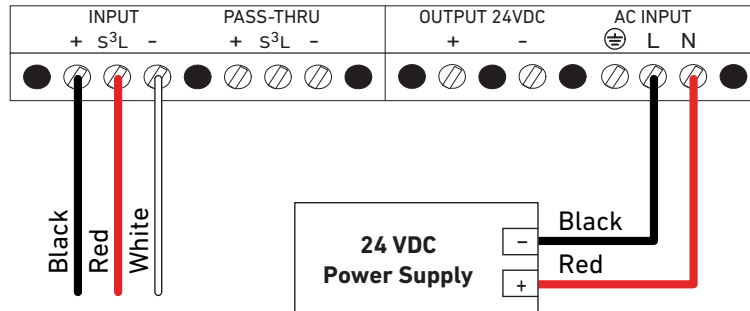
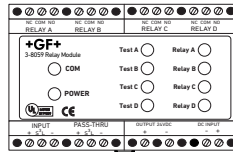
**OR**

### Channel 5 - 6

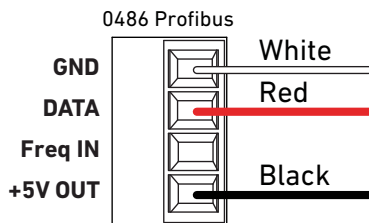


## Compatible Sensor: 8059

### 8059-4

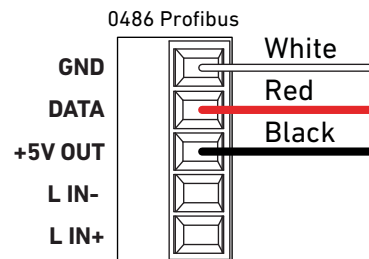


#### Channel 1 - 4



OR

#### Channel 5 - 6



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Tel. +41 52 631 11 11 • www.gfps.com • E-Mail: info.ps@georgfischer.com