



3-8059.090 Rev. G 03/13 English

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WARNING!



- Remove power to unit before wiring input and output connections.
- Do not alter product construction.
- This product should only be used for the purposes and in the manner described in this manual.
- This unit must be installed on a DIN rail.

1. Description

Signet 8059 External Relay Modules supplement the output capabilities of certain host instruments such as Signet 8250 Level Transmitters. AC-powered versions accept universal line voltage, and also provide 24 VDC output that can be used to power the host instrument or other device(s). The host instrument controls relay operation by way of a single S<sup>3</sup>L connection. The compact plastic housing is DIN rail mountable and includes LED annunciators for each relay, plus one each for power-on and data transfer or test mode.

2. Specifications

Input:	S <sup>3</sup> L (Signet Sensor Serial Link) via host instrument
<b>Enclosure</b>	
Material:	Noryl® UL 94 V-O
Type:	DIN rail mountable
Electrical connection:	Standard screw-type terminals
Shipping weight:	0.37 kg (0.8 lb.)
<b>Power</b>	
8059-4AC:	100-240 VAC ± 10%, 50/60 Hz, 20VA
8059-4:	12 to 24 VDC, 100 mA
	Add current requirements for external equipment if using DC output
<b>DC output</b>	
8059-4AC:	24 VDC regulated, 300 mA max
8059-4:	Pass-through (Input DC less 0.7 VDC) (12 VDC in = 11.3 VDC out)
Isolation:	>5000 Vrms
<b>Relays</b>	
Type:	SPDT 250VAC/30VDC @ 5A
Resolution:	2 ms
Response time:	< 100 ms
Annunciators:	Red LED, 1 per relay
Maximum cable:	400 ft. total S <sup>3</sup> L wiring

Environmental

Ambient temperature

- Storage: -20 °C to 85 °C (-4 °F to 185 °F)
  - Operating: -10 °C to 55 °C (-14 °F to 130 °F)
- Relative humidity: 0 to 90% (non-condensing)  
Maximum altitude: 2000 m (6500 ft)  
Insulation category: II  
Pollution degree: 2

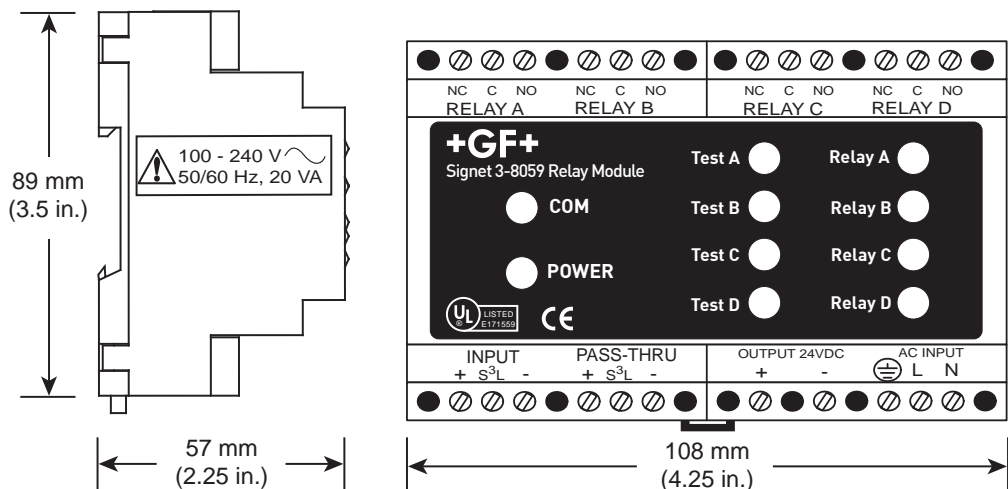
Standards and approvals

- CE, UL, CUL
  - RoHS Compliant
  - Manufactured under ISO 9001 for Quality, ISO 14001 for Environmental Management and OHSAS 18001 for Occupational Health and Safety.
- FCC** Declaration of Conformity according to FCC Part 15  
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and,  
(2) This device must accept any interference received, including interference that may cause undesired operation.
- 25** China RoHS (Go to [www.gfsignet.com](http://www.gfsignet.com) for details)

Noryl® is a registered trademark of GE Plastics

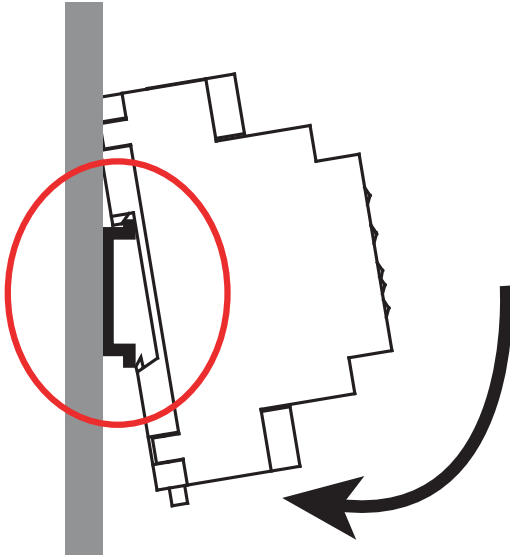
Dimensions

3-8059-4AC version is shown. External dimensions are identical for all versions.



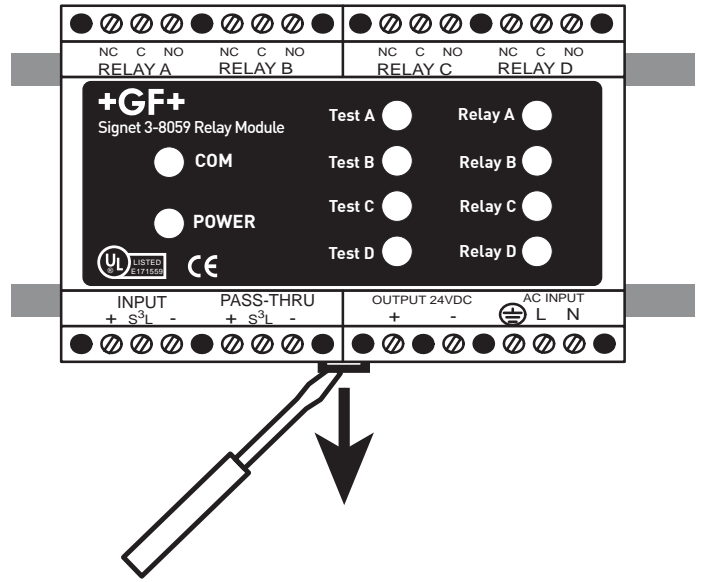
### 3. Installation

Tilt top of the 8059 to insert under top DIN rail, then press bottom of 8059 until the locking pin snaps onto lower DIN rail.



### Removal


Insert screwdriver into release mechanism on bottom of 8059. Pull down on release while lifting 8059 away from the DIN rail.



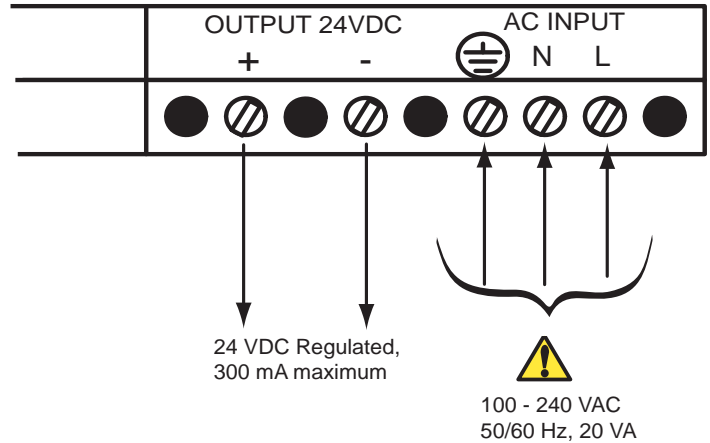
### 4. Power



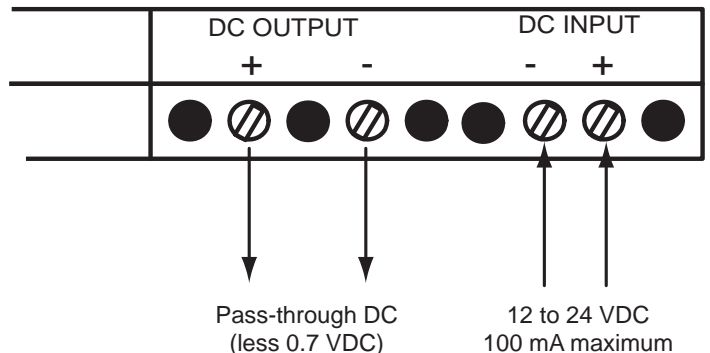
#### WARNING

- This unit must be installed inside a protected panel.
- Always connect  to earth ground.
- Disconnect power before wiring.
- Do not install where persons may inadvertently come in physical contact with the terminals.
- Include protection devices in the power system in case of power supply malfunction. A very high voltage may occur at output terminals during failure.
- Do not touch immediately after removing power. Some surface areas may be very hot.
- Do not exceed temperature specifications.
- Do not store or operate the AC power supply in any environment subjected to vibrations or shock.

#### AC Power terminals



#### DC Power terminals

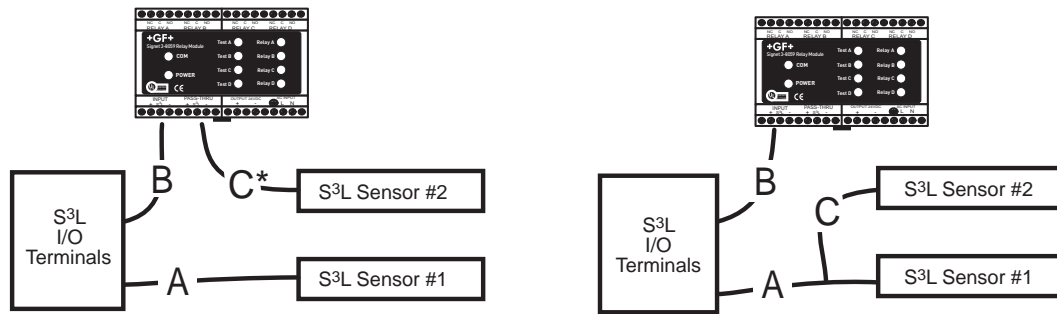


## 5. Wiring

- S<sup>3</sup>L devices may be connected to any available set of I/O terminals, or may be spliced into existing S<sup>3</sup>L device cable.
- \*Sensor may be connected to host instrument via pass-through S<sup>3</sup>L terminals on the 8059.
- Only one wire should be inserted into a terminal. Splice double wires outside the terminal.
- The **TOTAL** cable length from all S<sup>3</sup>L devices to the transmitter must not exceed 122 m (400 ft.).
- Do not route I/O cables in conduit containing AC power wiring. Electrical noise may interfere with data signal.
- Routing cable in grounded metal conduit will help prevent electrical noise and mechanical damage.
- The sensor configuration must be reset before the host instrument will recognize a new S<sup>3</sup>L device.**  
(see Calibrate menu, “Reset Sensor Configuration” in the 8250 Level Transmitter manual.)

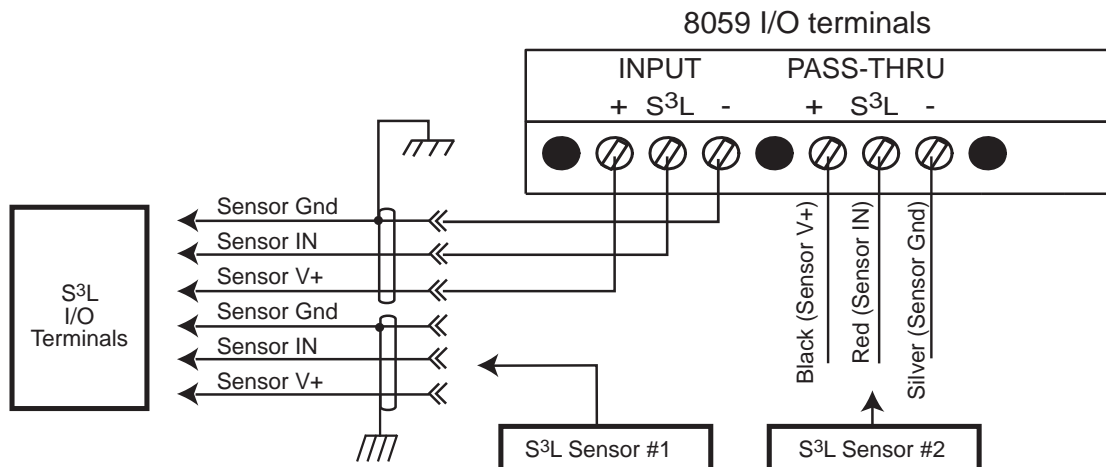
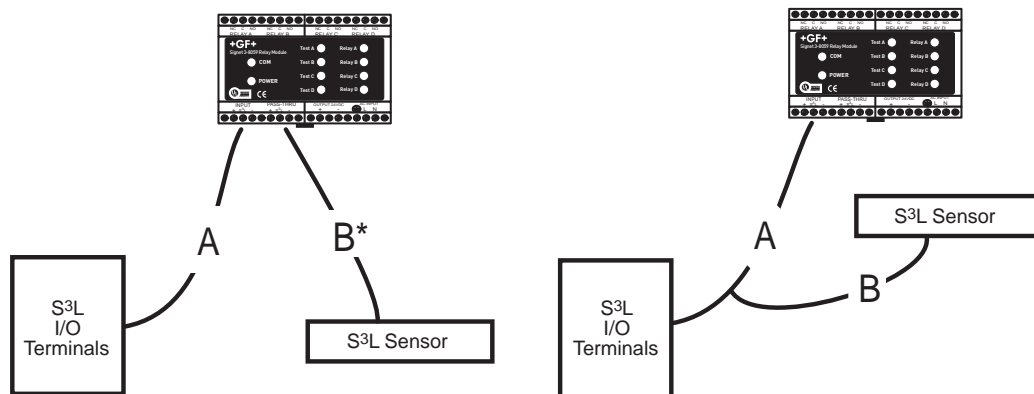
### Dual Sensor system

$$A + B + C \leq 122 \text{ m (400 ft.)}$$



### Single Sensor system

$$A + B \leq 122 \text{ m (400 ft.)}$$



6. Operation

Normal Operation:

- Green COM LED flickering rapidly.
- Both relays are controlled by the host instrument.

Indicator LEDs

DATA	On when S <sup>3</sup> L serial data is transmitted, or when a relay is in TEST mode.
POWER	On when input power is connected to 8059
Relay A	On when Relay A is energized
Relay B	On when Relay B is energized
Relay C	On when Relay C is energized
Relay D	On when Relay D is energized

Relays

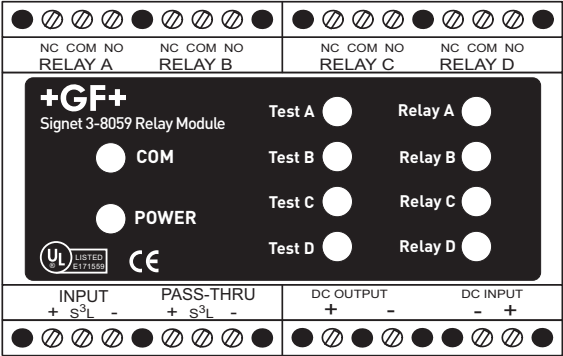
The 250V/5A dry-contact relays are controlled via the serial connection to the instrument. Use NO (normally open), COM (common) and NC (normally closed) to control external equipment.

S<sup>3</sup>L Terminals

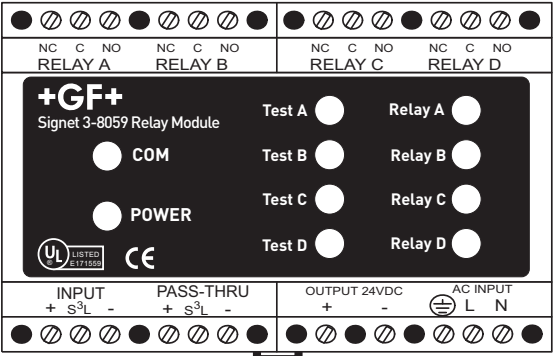
- Connect “input” directly to the S<sup>3</sup>L instrument.
- Connect an S<sup>3</sup>L sensor to “pass-thru” for convenience.

Test Buttons

Test A	Press to manually control Relay A
Test B	Press to manually control Relay B
Test C	Press to manually control Relay C
Test D	Press to manually control Relay D



8059-4



8059-4AC

7. Relay Test

Action	8059 Response
Press and hold TEST button for 5 seconds (until green DATA LED begins to blink slowly)	<ul style="list-style-type: none"><li>• The selected relay is now controlled by the TEST button.</li><li>• Pressing the other relay TEST button has no effect.</li></ul>
Momentarily press TEST button to toggle relay.	<ul style="list-style-type: none"><li>• The red RELAY LED will toggle to indicate relay condition.</li></ul>

To return relay to Normal Operation:	
Press and hold the TEST button for 5 seconds (until green DATA light begins to flicker rapidly)	<ul style="list-style-type: none"><li>• The relay returns to active status, controlled by the host instrument.</li></ul>

**NOTE:** The 8059 will automatically return to normal operation if no buttons are pressed for 5 minutes.

8. Ordering Information

3-8059-4	159 000 772	External 4-Relay Module
3-8059-4AC	159 000 773	External 4-Relay Module with power supply
3-8050.396	159 000 617	RC Filter Kit
6205-0002	159 000 858	DIN Rail, 1m
6205-0003	159 000 859	End Clips, DIN Rail



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