Engineered to order. Built to last.

Motor and Magnetic Actuator Control Packages

G&W relay based actuator controls are available for G&W SF6 gas or Trident® solid dielectric switchgear. Switches can be padmount style or installed in dry or wet vault environments. Controls are available to operate motors on up to six switch ways.

Features

Uses SEL Relays for Actuator Control

Controls utilize either the field proven SEL-451, 700GW, 751A or 751 relays. G&W integrates the relay into a IP68 or NEMA rated enclosure and includes a power supply, optional battery back-up with automated battery load test for AC powered units, pre-programmed actuator control logic, pre-labeled front panel pushbuttons and display, and a programming template to quickly and easily program the control.

Available with Built-In Overcurrent Protection

The four-way SEL-451 package can be used to provide overcurrent protection for up to two load ways. Each SEL-751/751A package can protect one load way. G&W installs and tests all the necessary logic prior to shipment. The control comes with a programming template to efficiently set the overcurrent settings. Overcurrent protection is available for both three-phase and single-phase loads.

SCADA Ready

The controls come standard with a DNP3.0 serial point map to control and monitor the switch using SCADA. Multiple protocols are available including DNP3.0 (standard), Mirrored Bits (standard), DNP IP (optional) and IEC 61850 (optional). Ethernet or fiber optic ports for communications are also available.

Lazer® Automation ready

Lazer Ready capability of the controls simplifies the requirements for communication to other intelligent field devices for automatic power restoration schemes. The controls are pre-engineered to work with G&W's Lazer Automation Systems.

User Friendly Controls

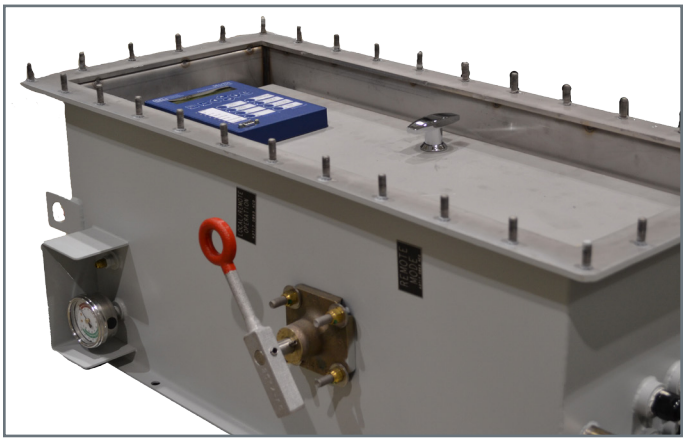
Large, easy to read, pushbuttons for the most commonly used functions gives quick access on the front panel of the control.

Sequence of Event Recorder

Each includes a Sequence of Events Recorder (SER) which will record the last 1,000 entries, including setting changes, powerups, and selectable logic elements.

▲ *SEL-751A and SEL-451 mounted in NEMA 4 enclosures.*

▲ *Low profile curbside pedestal enclosure.*



▲ *IP68 submersible wall mount enclosure.*

Program Options

The SEL751A program allows for pushbutton control for a single way.
The pressure contact from SF6 insulated switchgear is incorporated into the control to prevent operation in a low pressure situation. On Trident-SR switchgear, the block input is incorporated to prevent operation when the yellow handle is activated. For controls powered by 120VAC, battery alarm and AC status is wired into relay inputs as well as a battery test feature is programmed into the relay for customer use. Overcurrent protection is available when the motor control is on a fault interrupter mechanism. A template is provided for ease of setting.

▲ *SEL-751*

The SEL751 program allows for pushbutton control for up to two ways.
The pressure contact from SF6 insulated switchgear is incorporated into the control to prevent operation in a low pressure situation. On Trident-SR switchgear, the block input is incorporated to prevent operation when the yellow handle is activated. For controls powered by 120VAC, battery alarm and AC status is wired into relay inputs as well as a battery test feature is programmed into the relay for customer use. Overcurrent protection is available for one of the two controlled ways when the motor control is used with a fault interrupter mechanism. A template is provided for ease of setting.

▲ *SEL-751A*

There are two programs available for use with the SEL451-5 relay.
The first program allows for pushbutton operation of up to four ways where up to two of the ways can also have overcurrent protection. A template is provided for ease of setting the overcurrent protection. The pressure contact on SF6 insulated switchgear is incorporated to prevent operation in a low pressure situation. On Trident-SR switchgear, the block input is incorporated to prevent operation when the yellow handle is activated. For controls powered by 120VAC, battery alarm and AC status is wired into relay inputs as well as a battery test feature is programmed into the relay for customer use.

▲ *SEL-451*

The second program allows for pushbutton control for up to six ways. This program allows for pushbutton open/close operation of up to six ways. The pressure contact on SF6 insulated switchgear is incorporated to prevent operation in a low pressure situation. On Trident-SR switchgear, the block input is incorporated to prevent operation when the yellow handle is activated. For controls powered by 120VAC, battery alarm and AC status is wired into relay inputs as well as a battery test feature is programmed into the relay for customer use. Port one on the relay has a pre-programmed DNP3.0 Level 2 map.

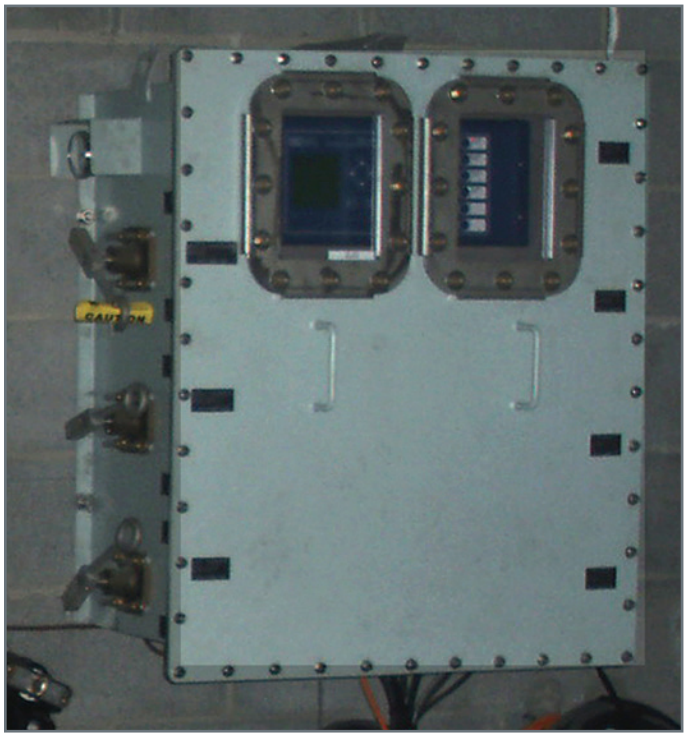
Enclosure Options

For padmount and dry vault applications, the control can be supplied in either a mild steel NEMA 4 enclosure or a stainless steel NEMA 4X enclosure. Both of these enclosures can be supplied in a compact size (24" tall by 24" wide) or in a larger size (30" tall by 24" wide) to accommodate additional equipment such as communication devices.

The NEMA 4 and NEMA 4X enclosures have several options including a padlocking handle, convenience outlet, and a document holder.

For submersible applications, the control can be supplied in an IP68 stainless steel enclosure. This enclosure has been tested to successfully withstand 20 days beneath a 20 foot head of water. The IP68 enclosure can be supplied with several options including:

1. Windows to see the front of the relay and any system status points
2. External handles for manual operation via hotstick or rope
3. A submersible DNP3.0 port for communications, and battery back-up in a NEMA 6P enclosure.



▲ *IP68 submersible stainless steel enclosure.*

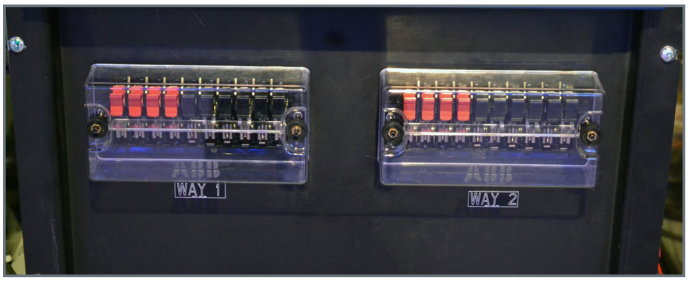
▲ *Padlockable handle*

▲ *Document holder*

Test Switch Option

Controls that include load side overcurrent protection can be supplied with a variety of optional test switches, including ABB FT1-F. The test switch provides the user with the ability to:

- Block tripping by opening the trip circuit
- Short the current transformer leads when working inside of the control enclosure
- Test the relay using a secondary current injection method



▲ *ABB FT1-F test switches*

Manual Controls

Portable Controls
For applications where AC power is not available at the switch site or if the flexibility of moving the control to different locations is desired, portable controls are ideal. The control is housed in an aluminum carrying case with a handle. A 120 VAC cable is supplied to charge the batteries. The maximum control cable length is 50 feet (15m). The Universal control can be used on both load break and fault interrupter switches.

Catalog Numbers:
Universal 2 Position with 25' Cable: *PMC120-U/B-25*
Universal 2 Position with 50' Cable: *PMC120-U/B-50*
Ground/Open/Close 3 Position with 25' Cable: *PMC120-3/B-25*
Ground/Open/Close 3 Position with 50' Cable: *PMC120-3/B-50*

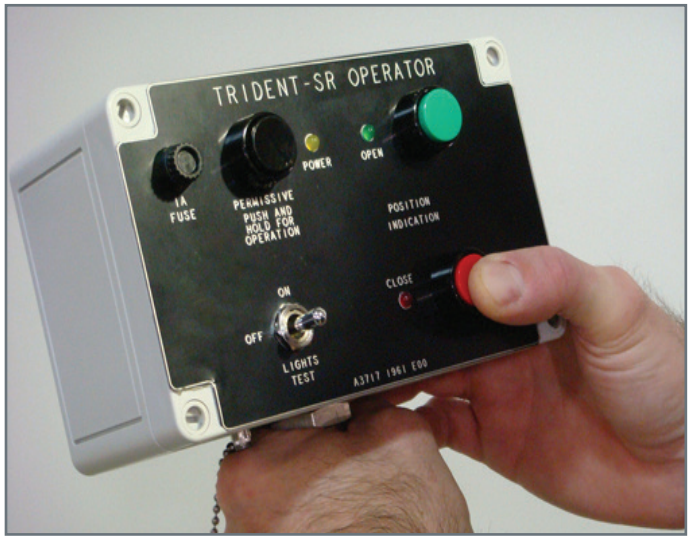
Hand Held Pendant Control
A small hand held control is available for magnetic actuated switches. This control is ideal for underground vault applications permitting switch operation from above ground. The control cable is hardwired into the switch and uses a threaded connector for attachment to the control. The polycarbonate control box is approximately 7"W x 4"H. The 24V DC control is powered by the switch.

Permanently Mounted Controls
Permanently Mounted Controls are available permitting local on-site or remote SCADA operation of the switch. The controls may be housed within a NEMA 4 mild steel, NEMA 4X stainless steel, NEMA 4X fiberglass, or IP68 stainless steel enclosure depending on application needs.

Controls are available for operating one or two ways and include Open and Close pushbuttons with a permissive operate feature and LEDs to show switch status.

Each control comes with dry contact SCADA status points and command inputs ready for connection to your choice of RTUs or communication devices. The control can also be ordered with the communication device pre-installed.

▲ *Portable Motor Actuator Control*



▲ *Hand Held Pendant Control*

Selection Guide

Actuator Style: ☐ Load Break Motor ☐ Fault Interrupting Motor ☐ Cock & Trip ☐ Magnetic Actuator

Control Type:

☐ Portable magnetic actuator
☐ PMC120-U/B-25
☐ PMC120-U/B-50
☐ Permanently Mounted Manual
☐ Hand Held Pendant (Trident-SR only)
☐ PMC120-3/B-25
☐ PMC120-3/B-50
☐ Relay Based

Permanently Mounted Manual and Relay Options:

Number of Ways: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 (Relay only) ☐ 6 (Relay only)

Enclosure Type:

☐ Mild Steel (NEMA 4)
☐ Fiberglass (NEMA 4X)
☐ NEMA 4 or 4X in Pedestal Enclosure
☐ Stainless Steel (NEMA 4X)
☐ IP68

NEMA 4/4X Enclosure Options:

☐ Document Holder ☐ Padlockable Handle ☐ Laptop Power Outlet

IP68 Enclosure Options:

☐ Viewing Windows ☐ Submersible Serial DNP Port ☐ Manual Operating Handles

Power:

☐ 120VAC without battery backup
☐ 240VAC without battery backup
☐ 24VDC
☐120VAC with battery backup
☐240VAC with battery backup
☐125VDC

☐ Wire Labeling

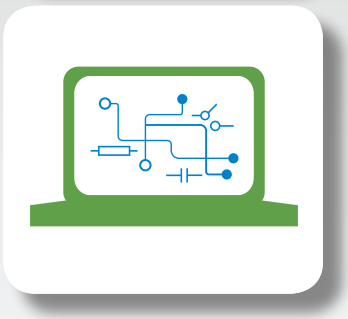
☐ Provisions for Radio: Manufacturer and Part Number _____

☐ Other Communication Device: Manufacturer and Part Number _____

G&W offers
Technical Support and Services:

Custom Engineering

Our engineers can tailor our products to meet the needs of any application.



Custom Programming

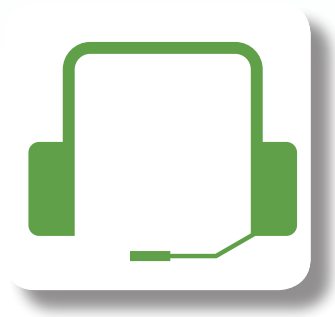
Our automation engineers can provide tailored relay programs to meet any specified needs.

Factory Acceptance Testing

G&W's Factory Acceptance Testing ensures customers' automation solutions are certified to operate properly and meet all requirements prior to being installed in the field.

Training Services

G&W offers a range of training solutions at both G&W facilities and on site.



24 Hour Technical Support

Technical support for G&W products is available 24 hours a day, 7 days a week.

G&W
Engineered to order. Built to last.

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