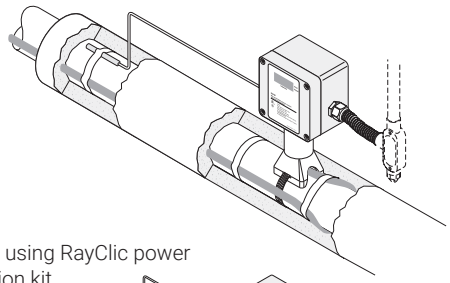
# ECW-GF, ECW-GF-DP

CONNECT AND PROTECT

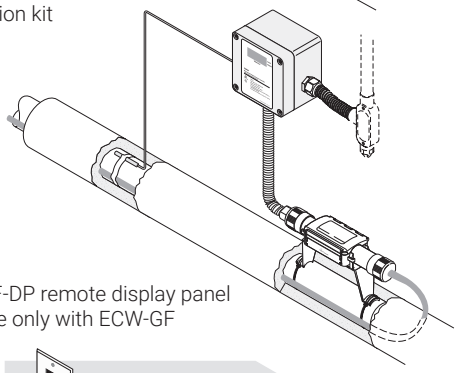
## Digital electronic controllers and remote display panel

### PRODUCT OVERVIEW

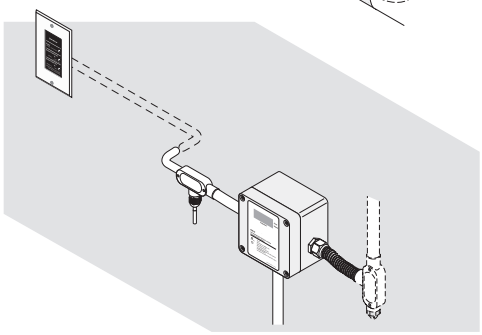
ECW-GF with FTC-PSK pipe stand and power connection kit



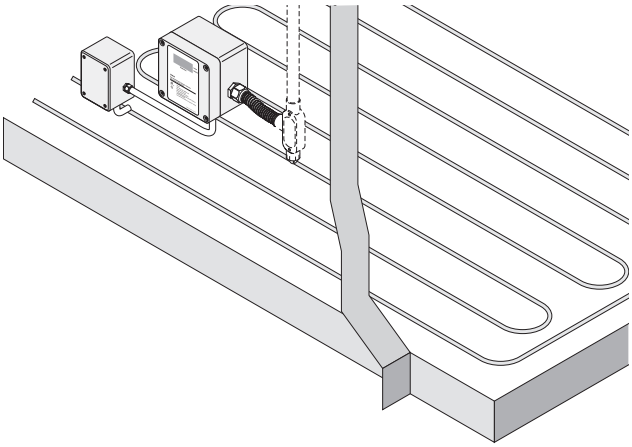
ECW-GF using RayClic power connection kit



ECW-GF-DP remote display panel available only with ECW-GF



ECW-GF using a separate junction box



The nVent RAYCHEM ECW-GF electronic controller provides accurate temperature control with integrated 30-mA ground-fault protection. The ECW-GF is ideal for pipe freeze protection, flow maintenance, freezer frost heave, floor heating and snow melting applications.

The ECW-GF is housed in a NEMA 4X enclosure designed to be wall mounted or installed on a pipe with the optional nVent RAYCHEM FTC-PSK pipe stand kit.

The controller includes a window and a digital display that shows the measured temperature, set point temperature and alarm conditions (temperature sensor failure, high or low temperature and ground-fault) if detected.

Alarm conditions can be indicated via a Form C dry contact connected to a building management system. Status LEDs indicate whether the digital display is showing the set point or actual temperature or if the controller is in an alarm state.

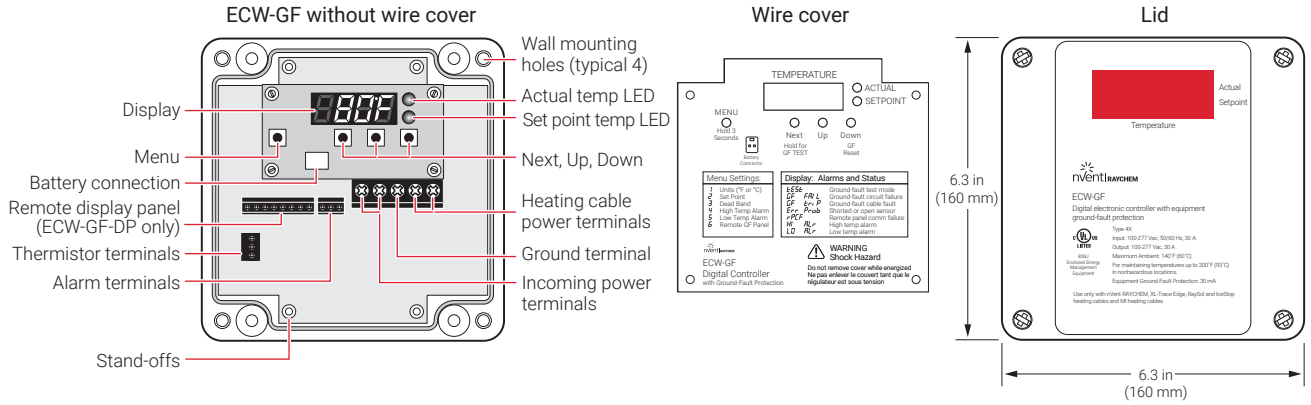
The ECW-GF can be programmed to maintain temperatures up to 200°F (93°C), at voltages from 100 to 277 V, and is capable of switching current up to 30 amperes.

Programming the set point temperature, deadband, and the high and low alarm thresholds on the controllers is accomplished using the built-in digital display and push buttons. A 9-V battery connector is supplied to allow programming the controller before the heating cable circuit power is provided.

An optional remote display panel, the nVent RAYCHEM ECW-GF-DP, is available. This remote display provides remote alarm indication and ground-fault test and reset capability. The ECW-GF-DP can be installed indoors in a standard duplex box located up to 328 ft (100 m) from the controller.

The ECW-GF is supplied with a 25-foot thermistor for line, slab or ambient sensing temperature control.

## ECW-GF CONTROLLER




**Note:**
Next button is used for ground-fault test.
Down button is used for ground-fault reset.

## GENERAL

| | |
|---|---|
| Approvals | Nonhazardous locations<br>c UL us LISTED |
| Supply voltage | 100–277 Vac ±10% 50–60 Hz<br>Common supply for controller and heat tracing circuit |

## ENCLOSURE

| | |
|---|---|
| Protection | NEMA 4X |
| Material | Fiberglass reinforced polyester plastic |
| Entries | 1 x 3/4 in (19 mm) conduit entries for power<br>1 x 1 in (25 mm) conduit entry for heating cable<br>1 x 1/2 in (13 mm) conduit entry for RTD sensor |
| Relative humidity | 0% to 90%, noncondensing |
| Ambient installation and usage temperature | –40°F to 140°F (–40°C to 60°C) |

## CONTROL

| | |
|---|---|
| Relay type | Double-pole, mechanical |
| Control range | 32°F to 200°F (0°C to 93°C) |
| Deadband | Adjustable 2°F to 10°F (2°C to 6°C) |
| Accuracy | ±3°F (1.7°C) of set point |

## INPUT POWER

| | |
|---|---|
| Voltage | 277 Vac nominal, 50/60 Hz maximum |
| Current | 30 A maximum |
| Power consumption | Max. 1.5W |

## MONITORING AND ALARM OUTPUT

| | |
|---|---|
| Temperature | Low alarm range: 20°F (–6°C) to set point minus deadband, or OFF<br>High alarm range: Set point plus (Deadband +5°F (3°C)) to 230°F, or OFF |
| RTD failure | Shorted or open temperature sensor |
| Alarm relay | Form C: 2 A at 277 Vac, 2 A at 48 Vdc |

## TEMPERATURE SENSOR (INCLUDED)

| | |
|---|---|
| Input type | Thermistor 10K ohm @25C Type J |

## GROUND-FAULT

| | |
|---|---|
| Ground-fault protection | 30 mA fixed |
| Ground fault trip reset | Reset button, manual |
| Ground-fault test | Manual ground-fault circuitry test; automatic hourly circuitry test |

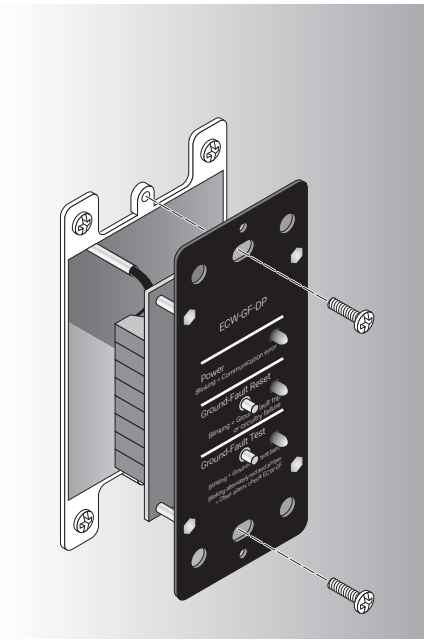
## PROGRAMMING AND SETTING

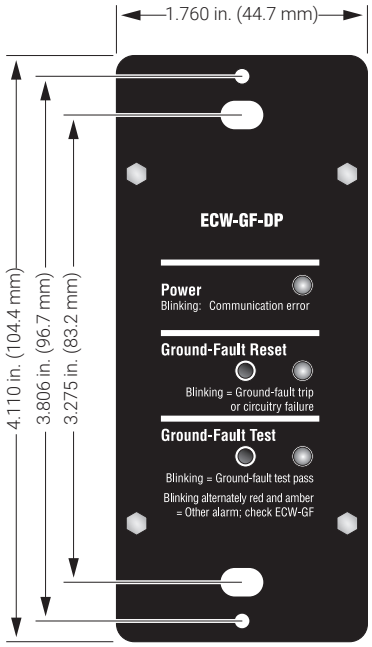
| | |
|---|---|
| Method | Programmable at controller – Push buttons on front panel |
| Units | °F or °C |
| Digital display | Four numeric display digits for parameter and error/alarm indication |
| LEDs | Indicate actual and set point from display and alarm state |
| Memory | Nonvolatile, restored after power loss |
| Stored parameters | Parameters can be programmed without power supply (external battery) and parameters are stored in nonvolatile memory. |
| Alarm conditions | Low/high temperature and thermistor failure (open or shorted)<br>Ground-fault trip, ground-fault circuit failure and loss of power. |

## CONNECTION TERMINALS

| | |
|---|---|
| Power supply input | Screw rising cage clamp, 18–6 AWG |
| Heating cable output | Screw rising cage clamp, 18–6 AWG |
| Ground | Screw rising cage clamp, 18–6 AWG |
| Thermistor | Screw rising cage clamp, 22–14 AWG |
| Alarm | Screw rising cage clamp, 22–14 AWG |
| Remote display panel | Screw rising cage clamp, 22–14 AWG |

## ECW-GF-DP REMOTE PANEL (for ECW-GF controller only)



## GENERAL

| | |
|---|---|
| Approvals | Nonhazardous locations<br>c UL us LISTED |
| Environment | Indoors, dry area |
| Ambient operating temperature | 32°F to 122°F (0°C to 50°C) |
| Humidity | 90% noncondensing |

## FEATURES

| | |
|---|---|
| LED | 3 LEDs 1 green, 1 red, 1 amber |
| Buttons | 2: Ground-fault reset, Ground-fault test |
| Power | Power provided from ECW-GF controller<br>12 Vdc @ 100 mA |
| Connection | 8 position terminal block<br>8 conductor 22 AWG shielded cable Alpha - Cat No. 1298C or equivalent<br>328 ft (100 m) maximum |

## ORDERING DETAILS

| Description | Catalog Number | Part Number | Weight/lbs |
|---|---|---|---|
| Wall mounted digital electronic controller with ground fault | ECW-GF | P000000925 | 4.0 |
| Remote display panel for ECW-GF | ECW-GF-DP | P000000926 | 0.3 |
| Pipe mounting kit with power connection and end seal | FTC-PSK | P000000927 | 0.2 |
| Replacement temperature sensor for EC-TS and ECW-GF controllers | EC-SENSOR-25 | P000000802 | 0.68 |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