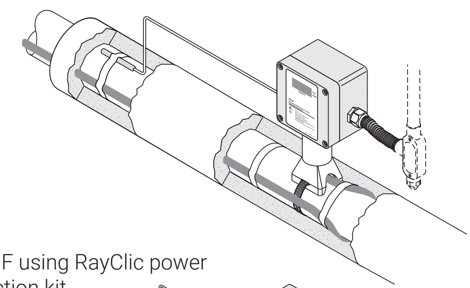
ECW-GF, ECW-GF-DP

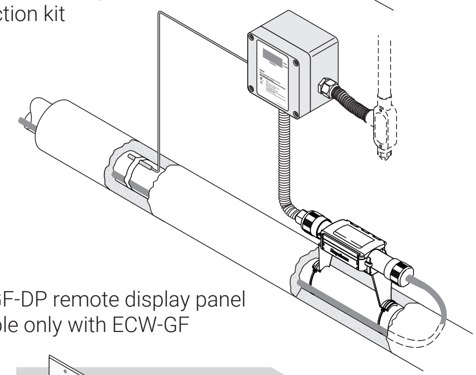
nVent RAYCHEM

DIGITAL ELECTRONIC CONTROLLERS AND REMOTE DISPLAY PANEL

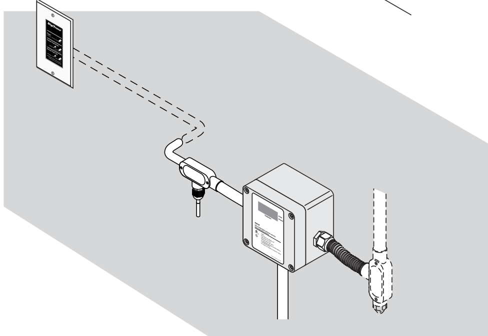
ECW-GF with FTC-PSK pipe stand and power connection kit



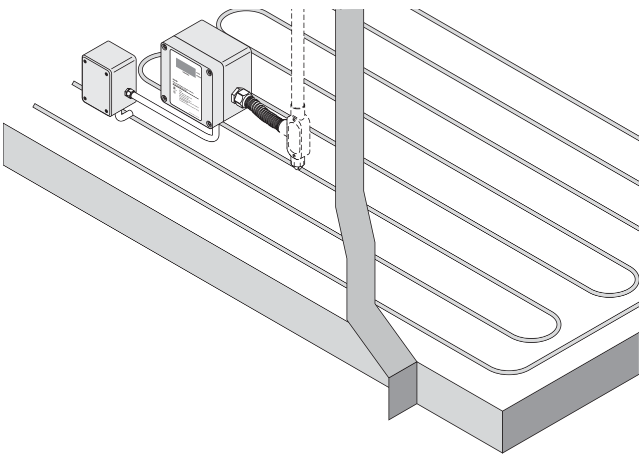
ECW-GF using RayClic power connection kit



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



ECW-GF using a separate junction box



PRODUCT OVERVIEW

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 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.

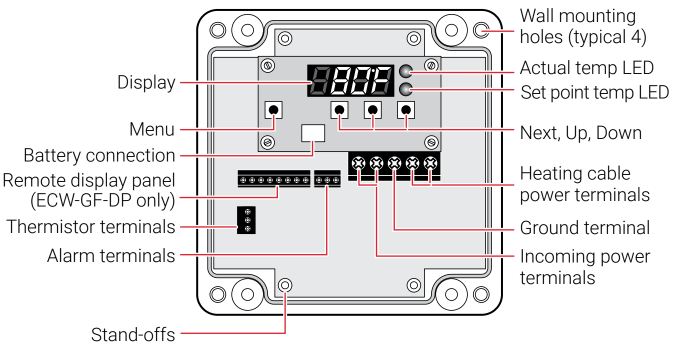
Programming the set point temperature, deadband, and the high and low alarm thresholds on the controllers is accomplished using the built-in digital display and push buttons. A 9-V battery connector is supplied to allow programming the controller before the heating cable circuit power is provided.

An optional remote display panel, the 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.

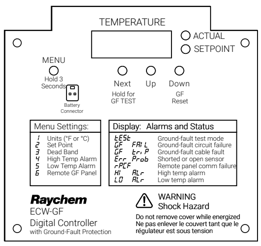
The ECW-GF is supplied with a 25-foot thermistor for line, slab or ambient sensing temperature control.

ECW-GF CONTROLLER

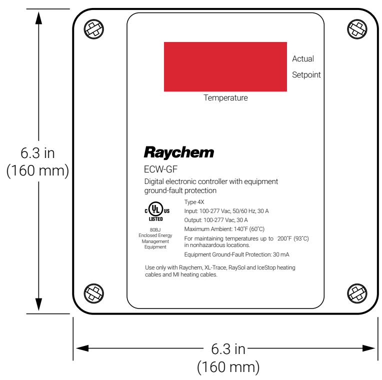
ECW-GF without wire cover



Wire cover



Lid



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

GENERAL

Approvals	Nonhazardous locations c UL us LISTED
Supply voltage	100–277 Vac ±10% 50–60 Hz 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 1 x 1 in (25 mm) conduit entry for heating cable 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

MONITORING AND ALARM OUTPUT

Temperature	Low alarm range: 20°F (–6°C) to set point minus deadband, or OFF 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

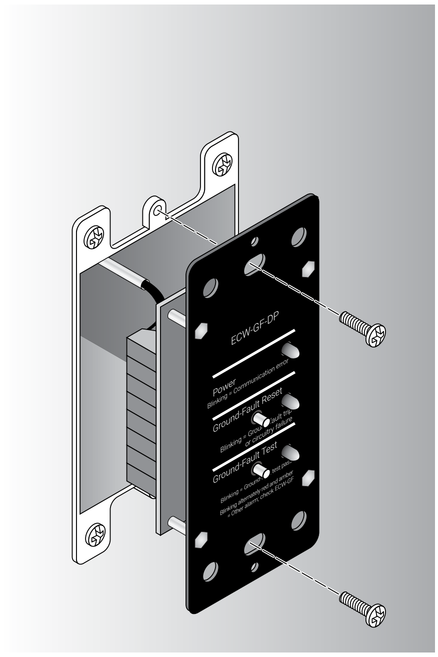
PROGRAMMING AND SETTING

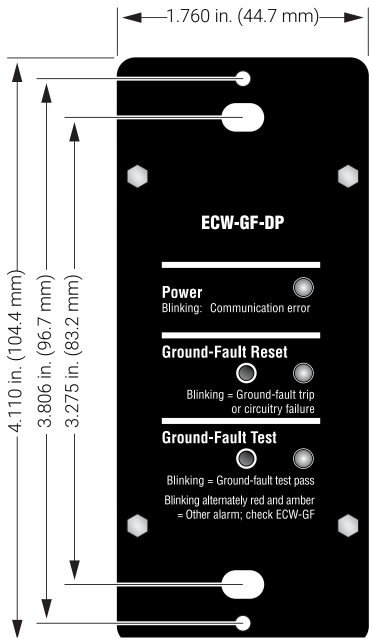
Method	Programmable at controller – Push buttons on front panel
Units	°F or °C
Digital display	Four numeric display digits for parameter and error/alarm indication
LEDs	Indicate actual and set point from display and alarm state
Memory	Nonvolatile, restored after power loss
Stored parameters	Parameters 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) 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 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 12 Vdc @ 100 mA
Connection	8 position terminal block 8 conductor 22 AWG shielded cable Alpha - Cat No. 1298C or equivalent 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

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