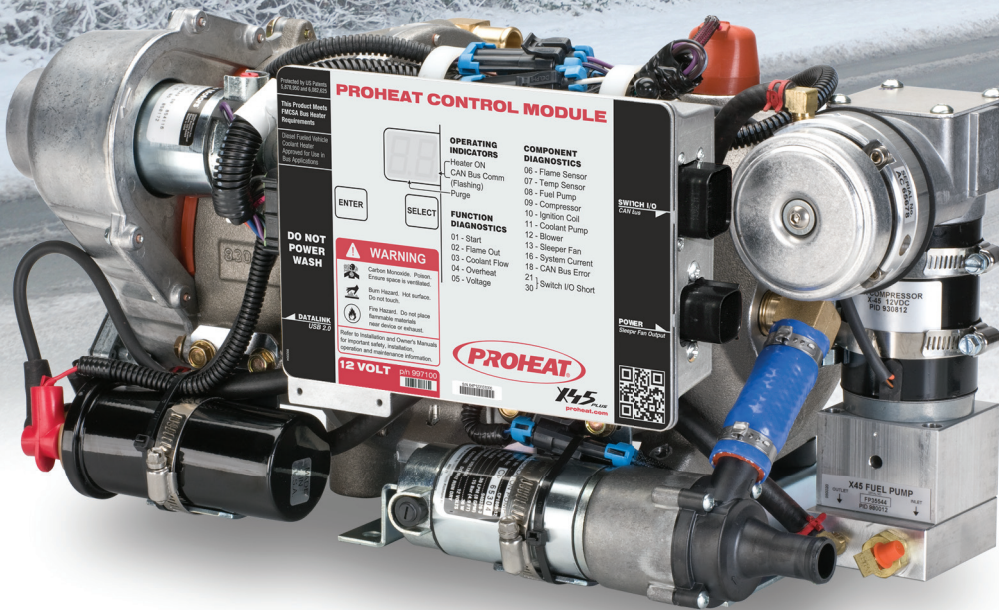




X45 PLUS

THE COOLANT HEATER OF CHOICE FOR THERMAL SOLUTIONS





X45 PLUS

POWERFUL AND RUGGED COOLANT HEATER FOR COLD WEATHER SOLUTIONS

Proheat X45 Plus is a powerful, diesel powered system heating solution.

The Proheat X45 Plus can provide engine and fluid preheat for easy cold weather starting, interior heat for occupant comfort and clear windows.

The X45 Plus can also help reduce maintenance by maintaining engine and system heat during vehicle operation ensuring emission systems are operating at optimal temperature.

CURRENT MODES

Preheat

Use this to warm up engines, fluids and vehicle interiors prior to starting service. The heater will come on via a switch or timer and run for up to 180 minutes. This mode can be configured to either shift to a different mode such as supplemental or shut off entirely when the vehicle is started.

The cycle on/off temperatures are fixed at 150°F to 185°F (65°C to 85°C).

Standard Mode

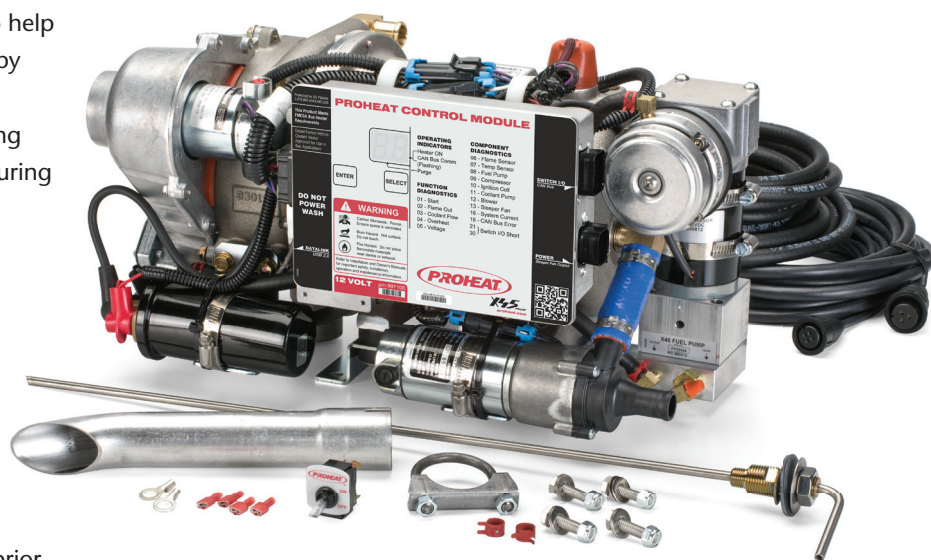
This is a similar mode to Preheat but there is no timed feature. The heater will run, cycling on and off until it is commanded to turn off via a switch input, timer or CAN bus.

The cycle on/off temperatures are fixed at 150°F to 185°F (65°C to 85°C).

Supplemental Mode

Use this mode to maintain engine temperature while the engine is running. This is especially important if there is little load on the engine. This mode can also be used to maintain interior heat or help keep hydraulic fluid or fuel warm during cold weather operation. The heater will cycle on and off at fixed set points but will not operate its integrated coolant pump unless the heater is firing. This has an added benefit of minimizing coolant pump hours. This mode is enabled via a switch input or CAN bus.

The cycle on/off temperatures are fixed at 150°F to 185°F (65°C to 85°C).

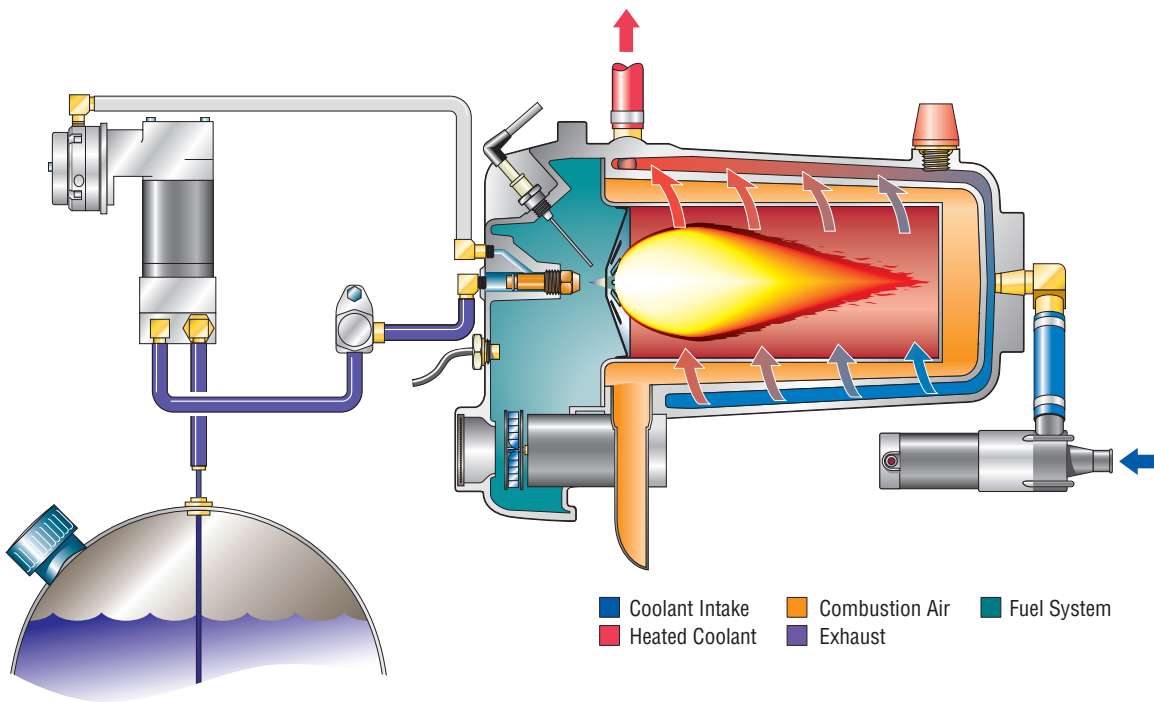


Proheat X45 PLUS with install kit.

NEW FEATURES & OPERATING MODES

HEATER FEATURES

- SAE J1939 CAN bus communication
- Easily integrates into OEM systems
- Reduces wiring and installation costs by running on vehicle communication network
- Full control and error reporting available over CAN bus
- Integrated Mechanic's Switches
- Convenience of being able to program, service and operate the heater without external switches or timer input
- Temporarily turn the heater on or off right at the heater
- Program heater or replacement components



NEW MODES

Anti-Freeze Mode

This mode is designed to maintain a minimum system temperature for extended periods of time such as over a weekend all while maximizing battery life and reducing fuel consumption. This is accomplished by reducing cycle on/off set points and employing a low power standby scheme. In this mode, the system runs the coolant pump every 20 minutes to ensure the coolant temperature throughout the system is maintained at the set points. Anti Freeze mode will drop out if a different signal is received such as preheat or supplemental heat and will reengage once that signal is no longer present to ensure a minimum temperature is always maintained for critical components.

The cycle on/off temperatures are set at 41°F to 60°F (5C to 20°C).

Supplemental Max Heat Feature

This is a similar mode to our current supplemental mode but is useful for Tier 4 engines to help maintain higher engine temperatures to reduce emissions and resulting regens or when more heat is needed such as high HVAC demands.

The cycle on/off points are set at 170°F to 190°F (77°C to 88°C).

Global Low Temperature Feature

This mode is used to prevent short cycling due to either a small coolant loop or when a lower system temperature is all that is required.

This mode reduces the set points for ALL modes except Anti Freeze.

The cycle on/off points are set at 73°F to 108°F (40°C to 60°C).

Supplemental Priority Feature

This setting is used in conjunction with either Supplemental or Supplemental Max Heat modes to ensure the supplemental mode takes priority over any other modes. This mode over rides but does not cancel the original mode which is useful for intermittent or start stop operation or systems that are split between two engines.



Optional Timer

TWO YEAR WARRANTY

Proheat X45 is backed by a full two year parts and labor warranty and is supported by a nationwide network of Authorized Proheat Dealers.

AT A GLANCE

STANDARD MODE ⁽¹⁾

- normal operation of the Proheat
- overrides Supplemental Mode
- overrides and cancels Preheat Mode
- overrides Anti-Freeze Mode

SUPPLEMENTAL MODE ^(1, 2, 3) (engine running)

- similar to Standard Mode except: coolant pump does not run when Proheat is not firing
- overrides and cancels Preheat Mode
- overrides Anti-Freeze Mode
- 30 second signal required before mode enabled
- 5 second delay required for mode switch off

PREHEAT MODE ⁽¹⁾ (engine off)

- similar to Standard Mode except: 90 minute time out
- overrides Anti-Freeze Mode
- activated via momentary contact push button switch with latching internal to the G-II PCM

ANTI-FREEZE MODE ⁽¹⁾ (engine off)

- similar to Supplemental Mode except: coolant pump runs at set intervals when Proheat is not firing to check actual system temperature

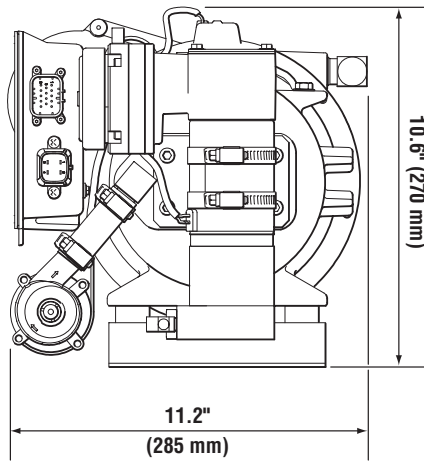
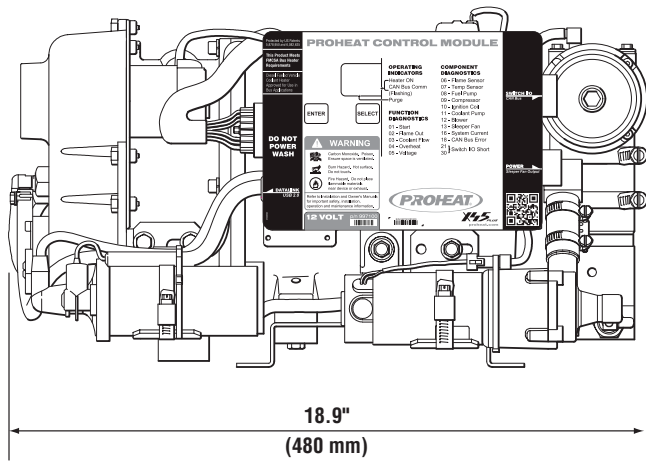
ADDITIONAL FEATURES

⁽¹⁾ GLOBAL LOW FEATURE
Shifts all the cycle on/off temperature of operating modes (Preheat, Standard and Supplemental) down to between 73–108°F (40–60°C).

⁽²⁾ SUPPLEMENTAL MAX HEAT FEATURE
Changes the supplemental mode cycle on/off temperature range to 170–190°F (77–88°C).

⁽³⁾ SUPPLEMENTAL PRIORITY FEATURE
Overrides Standard Mode but does not cancel Mode.

SPECIFICATIONS



Enclosure (diamond plate)



Enclosure (smooth metal)

ABOUT PROHEAT

Proheat is a global leader in advanced auxiliary heaters. Our customers include aftermarket vehicle dealers and service organizations as well as manufacturers of transport trucks, buses, off-highway, and military vehicles.

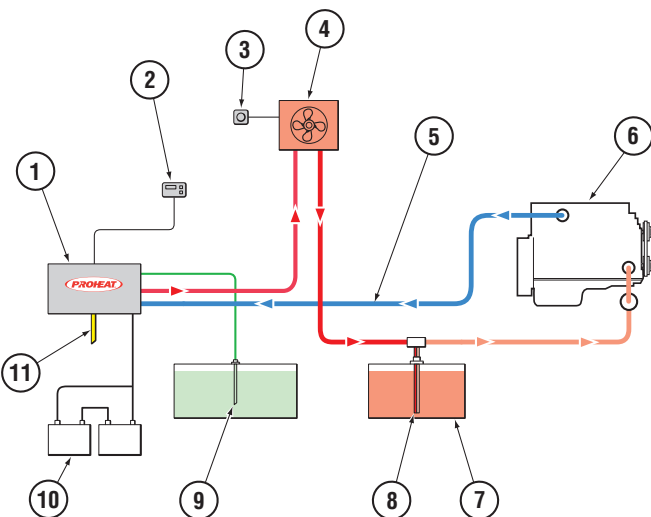
Proheat is manufactured by Marine Canada Acquisition Inc. (DBA SEASTAR SOLUTIONS).

MODEL	X45 PLUS-12	X45 PLUS-24
RATING	45,000 BTU (13 kW)	
OPERATING VOLTAGE RANGE	10.0 – 15 VDC	20 – 30 VDC
CURRENT (Nom.)	7.5 Amps	3.75 Amps
FUEL CONSUMPTION (average to maximum)	0.1 to 0.45 gal/hr. (0.4 to 1.7 L/hr.)	
COOLANT FLOW	8.0 gal/min. (30 L/min.)	
COOLANT TEMPERATURE (at heater)	150 to 185 °F (65 to 85 °C)	
OPERATING TEMPERATURE RANGE	- 40 to 122 °F (- 40 to 50 °C)	
FUEL TYPES	Diesel (ULSD #1, #2 and Arctic Blend), Kerosene (K-1), Jet (A, A-1 and JP8), Bio fuels (up to B20)	
IGNITION TYPE	Electronic spark ignition	
HEAT EXCHANGER CAPACITY	1 quart (.98 litre)	
WEIGHT	heater only with enclosure	
	40 lb (18 kg) 55 lb (25 kg)	
DIMENSIONS – HEATER (L x W x H)	18.9 x 11.2 x 10.6 inches (480 x 285 x 270 mm)	
DIMENSIONS – ENCLOSURE (L x W x H)	20.2 x 12.3 x 10.6 inches (513 x 313 x 270 mm)	
WARRANTY	Two years parts and labor	

Please Note: Specifications are subject to change without notice.

Proheat is registered trademark of Marine Canada Acquisition Inc.

Dealer:



Possible Heating Options

- | | | |
|-------------------|------------------|--------------------------|
| 1 X45 Plus Heater | 5 Coolant Return | 9 Fuel Pick-Up |
| 2 Timer | 6 Heated Engine | 10 Electrical Connection |
| 3 Thermostat | 7 Hydraulic Tank | 11 Exhaust |
| 4 Heat Exchanger | 8 Heat Probe | |



Designed and Manufactured
in North America



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