L641
SURFACE CONTACT THERMOSTAT

FEATURES

- **Versions available for use as a cylinder thermostat in domestic hot water installations**

- **Versions available for use as a pipe thermostat in fan-coil applications**

- **Version available for use as a pipe thermostat in frost protection applications**

- **Version available for use as a pipe thermostat to limit the supply water temperature in underfloor heating and solid fuel systems**

- **The S.P.D.T. switching action is accomplished by a snap-action MICRO SWITCH which is actuated by a bimetal temperature sensing element**

- **The desired temperature control point is set by the clearly scaled temperature selector on the front cover**

- **Wiring terminals are easily accessible**

- **Tamperproof temperature setting (L641B)**

- **Screwdriver slot temperature setting, with optional manual setting knob supplied (L641A)**

- **Approvals - B.E.A.B. (meets EN 60730)**

DESCRIPTION

The L641 is a surface contact thermostat designed to sense the water temperature in storage cylinders and water pipes, and to provide temperature control, temperature limiting, and temperature feedback functions.

L641A mounts directly onto domestic hot water cylinders and can be wired to directly switch a wet central heating circulating pump, or boiler, or to operate spring return and motor open/motor close zone valves.

L641B mounts directly onto a pipe and can provide high limit, low limit or frost protection in wet central heating systems or automatic summer/winter changeover in XE70 and XE90 fan-coil control systems.

SPECIFICATIONS

Supply voltage	: 230 V~, 50...60 Hz
Switch action	: S.P.D.T. Type 1CL
Switch rating	: 4(2) A, 230 V~
Temperature setting range	: see table
Differential	: Approximately 10 K non-adjustable
Surface temperature range	: 0 to 95°C
Ambient temperature range	: 0 to 70°C
Mounting	: L641A mounts directly onto cylinder using fixing strap provided L641B mounts directly onto pipes using fixing springs provided
Dimensions	: 44 x 79 x 54mm (1.73" x 3.11" x 2.13") (w x h x d)
Wiring	: 3 terminals with wiring clamps, accepting wires up to 1.5 mm^2

ORDERING SPECIFICATION

Model	Application	Temperature Setting Range
L641AI039	Cylinder Thermostat	Min, 40 to 80 ^{o} C
L641BI004	Low Limit Pipe Thermostat	Min, 10 to 40° C
L641B1012	High Limit Pipe Thermostat	50 to 95°C
L641BI020	High Limit Pipe Thermostat	40 to 95°C
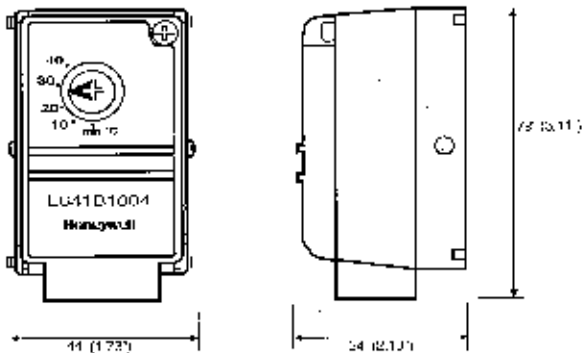
DIMENSIONS

Dimensions in millimetres (inches in brackets)

IMPORTANT

1. *The installer must be a trained service engineer*
2. *Disconnect the power supply before beginning installation*

INSTALLATION

Mounting

The L641A cylinder thermostat should be mounted $^1/_4$ to $^1/_3$ of the way from the bottom of the domestic hot water cylinder after removing a section of the insulation and cleaning the surface.
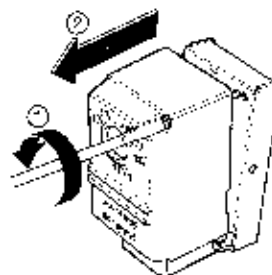
The L641B pipe thermostat should be positioned less than 0.6 m (2') from the boiler, or on a supply pipe to a fan-coil unit, close to the 3-port control valve.
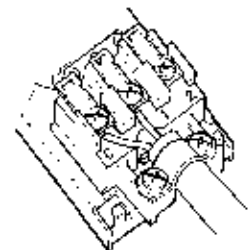
Wiring

Cover removal   Wiring to terminals

APPLICATION

	DHW Storage Tanks/ Cylinders (see note 1)	High Limit Underfloor Heating Systems (see note 2)	High Limit Solid Fuel Systems (see note 2)	Low Limit Frost Protection (see note 3)	Fan-Coil Unit Summer/ Winter Changeover for 2-pipe units (see note 4)
L641Al039	✓				
L641Bl004				✓	✓
L641Bl012		✓	✓		
L641Bl020		✓	✓		

Notes

1. The L641A should be mounted $^1/_4$ to $^1/_3$ of the way from the bottom of the cylinder.
2. The L641B should be mounted less than 0.6 m (2') from the boiler.
3. The L641B should be mounted on the boiler return pipe and used in conjunction with the T4360A FrostStat.
4. The L641B should be set to approx. 25° C and mounted on the supply pipe close to the 3-port control valve such as to sense the water temperature even when the valve is closed.

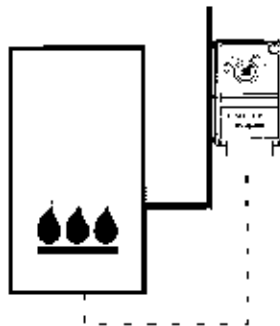## Water Temperature Sensing and Control

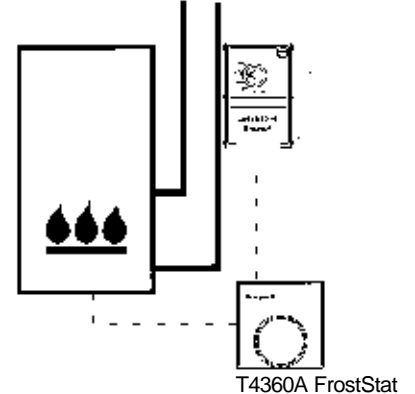D.H.W. Storage Cylinders and Tanks

Limit Control in Pipes

L641A1039
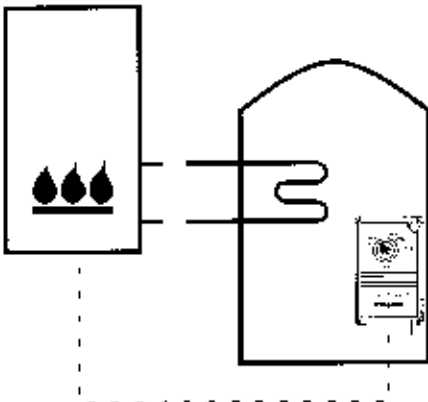
High Limit
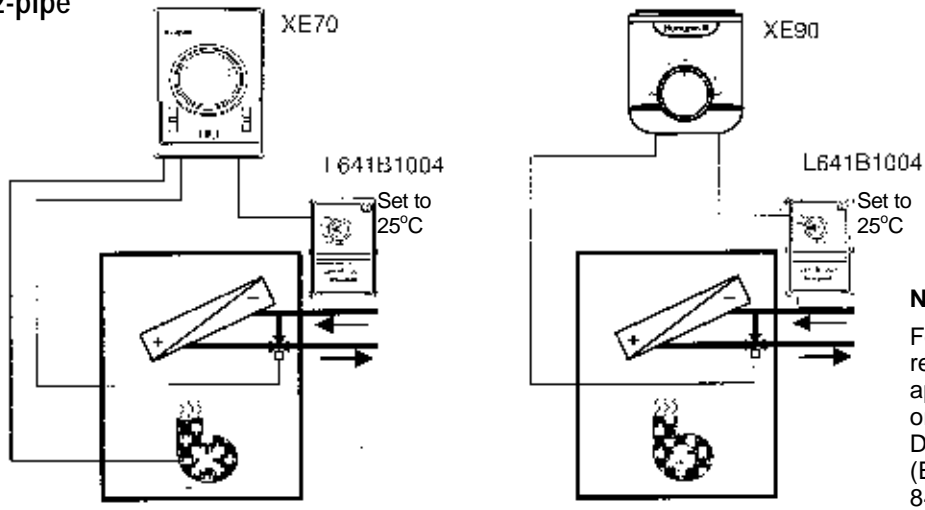For Underfloor Heating
For Solid Fuel Systems

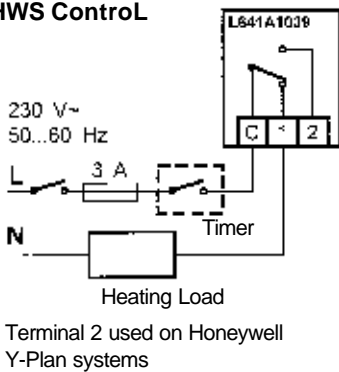Low Limit
For Frost Protection of
Exposed Pipework

L641B1012

L641B1004

T4360A FrostStat

Summer/Winter Changeover for 2-pipe Fan Coil Units

XE70

L641B1004

Set to 25°C
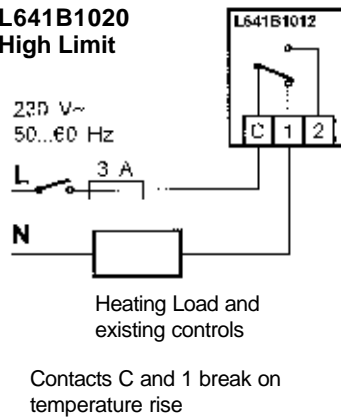
XE90

L641B1004

Set to 25°C

Note:

For wiring details refer to the appropriate XE70 or XE90 Product Data sheet. (ENOR8402, 8403, 8406)

WIRING DIAGRAMS

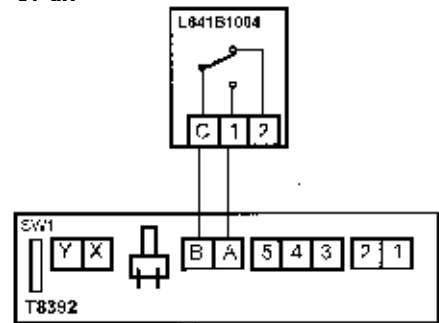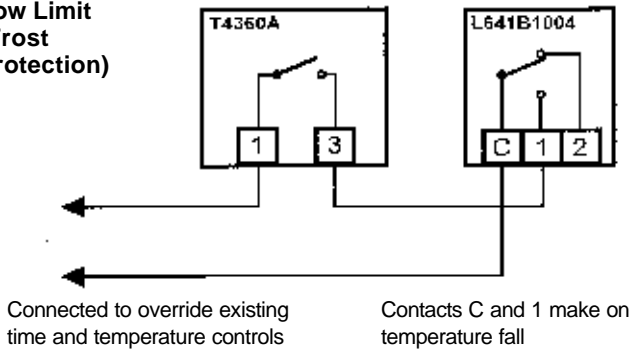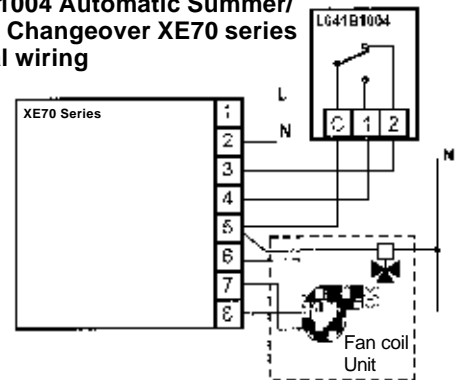### L641A1039 DHWS ControL

L641A1039

230 V~ 50...60 Hz

L — 3 A — Timer

N

Heating Load

Terminal 2 used on Honeywell Y-Plan systems

L641B1012 L641B1020 High Limit

L641B1012

230 V~ 50...60 Hz

L — 3 A

N

Heating Load and existing controls

Contacts C and 1 break on temperature rise

L641B1004 Automatic Summer/Winter Changeover XE90

L641B1004

C 1 2

SW1

T8392

Y X   B A 5 4 3 2 1

L641B1004 Low Limit (Frost Protection)

T4360A

1   3

L641B1004

C 1 2

Connected to override existing time and temperature controls

Contacts C and 1 make on temperature fall

L641B1004 Automatic Summer/ Winter Changeover XE70 series Typical wiring

L641B1004

XE70 Series

1
2
3
4
5
6
7
8

L

C 1 2

N

Fan coil Unit

Honeywell