

PRODUCT BULLETIN

NEW Refrigerant Leak Detection & Pump Back Products

- **TCB-LD2-UK Leak Detection Panel**
- **Components and Accessories**

***** Available Now *****









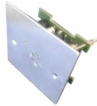
TOSHIBA are pleased to announce the launch of the 2nd phase release of the new refrigerant leak detection and pump back products for the Toshiba VRF model range

1. Product Line Up

- ♦ VRF R410A outdoor units supplying multiple indoor units contain high volumes of refrigerant that flows within the system. In the unlikely event of a refrigerant leak, it is possible that, if a room/office is small enough, the concentration level of refrigerant inside that room/office could become harmful to the occupant. Previously, Toshiba have stipulated that if the concentration level of the refrigerant exceeds 0.44kg/m³ an opening should be created with an adjacent room or the room should be fitted with a gas leak detection device and mechanically ventilated.

The new “Refrigerant Leak Detection and Pump Back Products” enable a solution to this potential issue, providing both an indication of a refrigerant leak in accordance with EN378, where the refrigerant concentration level exceeds 0.44kg/m³ and the mechanical isolation and pump back of refrigerant from the indoor side to the outdoor unit(s). This new system can incorporate both external and internal sensors to monitor and determine the level of refrigerant in the enclosed atmosphere and flowing within the refrigerant piping system. All “Refrigerant Leak Detection and Pump Back Products” are CE certified.

2. Components and Accessories

Components and Accessories			
Item		Item	
TCB-LD2-UK Leak Detection Panel		Isolation Valve Series I* (Sold Separately)	
PRV (pressure release valve) (included with panel)		Isolation Valve Series II* (Sold Separately)	
Strainer (included with panel)		Optional Accessories	
TCB-PCM04E Outdoor Interface (Sold Separately)		TCB-LDS1 Refrigerant Sensor (Sold Separately)	
TCB-PCM14E Outdoor Interface (Sold Separately)		TCB-LDS2 Refrigerant Sensor (Sold Separately)	

*Customers will need to purchase three isolation valves for 3 pipe heat recovery systems

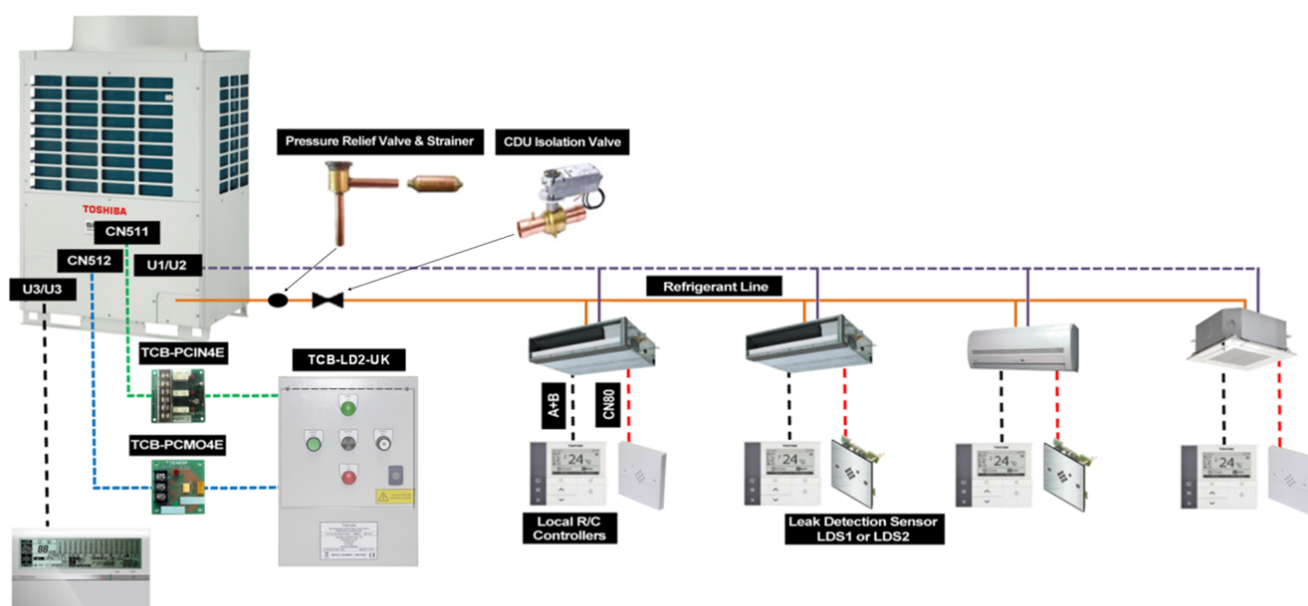
3. Specifications

Components and Accessories									
Leak Detection Panel			TCB-LD2-UK						
Model Group			Mini SMMSe/SMMSe/SHRMe						
Function			Leak Detection & Pump Back Control Module						
Function Summary			Automatic Pump back of refrigerant from indoor side to outdoor, based on the detection of either L30 fault code (activated via the external leak detection sensor – LDS1 & LDS2) or via an internal CDU based refrigerant detection control algorithm that continually monitors key system parameters						
Target Application			All VRF (SMMSe/SHRMe/Mini SMMSe) installations where refrigerant concentration levels could exceed 0.44Kg/Cm² (EN378), within an occupied space						
Height	mm	400							
Width	mm	300							
Depth	mm	15							
Weight	Kg	10							
Switch/Indicator Protection			Hinged Perspex Cover						
Standard Rating	IP	55							
Low Ambient Protection Heater	Watts	14							
Audible Alarm			Yes						
Audible Alarm Sound Level	dB	80							
Alarm Mute			Yes						
Remote Indication Relay	V	0							
Visual Indicator (neon)			Yes (Leak Detection – External and internally)						
Fault Code Generated at Local Controller			Yes (L30 or P15 depending on system setup & fault location)						
Fault Code Generated on CDU 7 Segment Display			Yes (L30 or P15 depending on system setup)						
Power Supply	V/ph/Hz	220-240/1/50							
Fused Supply	A	5							
Pressure Relief Valve (included accessory)			PRV						
Function			Pressure Regulating Valve (Liquid to Suction Lines)						
Refrigerant Pipe connection	mm	6.35							
Setting Pressure	MPa	4.15							
Maximum working Pressure	MPa	4.30							
Pressure Relief Valve Strainer (included accessory)			Strainer						
Function			Provides protection to the pressure relief valve from debris within the pipework						
Refrigerant Pipe connection	mm	9.4							
Mesh Rating			Stainless Steel 100 Mesh						
Isolation Valves (Sold Separately)			AW17861	AW17862	AW17863	AW17864	AW17865	AW17866	AW17867
Model Series			I	I	I	I	II	II	II
Function			In the event of a refrigerant leak activation by the LD2-UK controller, these isolation valves are used to separate the CDU from the indoor refrigerant pipework, allowing the remaining refrigerant to be reclaimed and the leak identified and repaired						
Refrigerant Pipe connection	mm	12.7	15.9	19.0	22.2	26.6	34.9	41.3	
A	mm	102	102	107	107	116	128	136	
B	mm	94.23	94.23	60	60	60	60	60	
C	mm	94	94	94	94	94	150	150	
D	mm	70	70	70	70	70	81	81	
Weight	Kg	1.00	1.06	1.09	1.10	1.41	2.51	3.15	
Running Time (open – close)	Sec	125				150			
Ambient Operation Limitations	°C	-32 to 55							
Ambient Humidity Limitations	Rh%	95							
Power Consumption	VA	2.3				3			
Operating Voltage	Vac	24							
Operation Frequency	Hz	50							
IP Rating	IP	54							
Model Group			CyclemasterAcuated Ball Valves						
Function			Isolation of Refrigerant Pipework (Gas & Liquid)						

Outdoor Interface (Sold Separately)		1x TCB-PCM04E (fitted to Header unit)	1x TCB-PCMI4E (fitted to Header unit)
Model Group		Mini SMMSe/SMMSe/SHRMe	
Function		Input Card (Used for communication between CDU and LD2-UK module)	Output Card (Used for communication between CDU and LD2-UK module)
Height	mm	85	
Width	mm	85	
Depth	mm	32	
Weight	Kg	0.085	
Fitment Location		CDU	
Outdoor Interface			
Refrigerant Sensor (Sold Separately)		TCB-LDS1	TCB-LDS2
Model Group		Mini SMMSe/SMMSe/SHRMe	
Function		Refrigerant Leak Detector	
Height x Width x Depth	mm	85 x 85 x 32	
Mounting Screw Pitch	mm	60	
Weight	Kg	0.085	
Facia Plate Material		Plastic	Stainless Steel
Colour		White	Stainless Steel
Installation Type		Recessed	
Audible Alarm		Yes	
Audible Alarm Sound Level	dB	85	
Alarm Mute		Powered Off	
Visual Indicator (neon)		3 x Coloured LED	
Fault Code generated to Local Remote Controller		Yes (L30)	
Interconnecting Cable Max Length (sensor to FCU)	M	10	
Interconnecting Cable Type (sensor to FCU)	mm ²	0.75mm ² Multi core	
Interconnecting Cable Max Length (sensor to LD1)	M	50	
Interconnecting Cable Type (sensor to LD1)	mm ²	0.75mm ² Multi core	
Power Supply		12-24V AC/DC	
Suggested Fuse Supply	Amps	N/A	
Circuit Protection Fuse Supplied with Cable	mA	125 (fuse supplied as part of loom)	
Cable Link for Remote On/Off (Vin Card)		Yes	
Fail Safe Relay Operation		Yes	
Recommended Mounting Height Above Floor Level	mm	150	
Indoor Refrigerant Sensors			

4. System Schematic

- The generic design of the system is the same between model groups Mini SMMSe, SMMSe, and SHRMe see typical example below: -



5. Maintenance

- Toshiba recommend regular periodic checks, to ensure correct operation. Installation location and exposure to dust and dirt may cause sensors to deteriorate in accuracy resulting in impeded operation. Please contact EMEA technical support for further operation

6. Note

- The TCB-LD2-UK Leak Detection Panel is not compatible with previous versions of VRF products and **is not** connectable to MiNi SMMS, SMMS, SMMSi, SHRM and SHRMi outdoor units.

For further information please contact our customer support team on 0870 843 0333, your local representative, your supplier of **TOSHIBA** products or email any enquiries to: - general.enquiries@toshiba-ac.com