

QE90 KEYPAD CONNECTOR FAULTS

IDENTIFICATION & FIELD CHANGEOVER PROCEDURE

In late 2006/early 2007 a small number of newly-manufactured QE90 panels started exhibiting keypad faults.

These faults have been traced to a batch-specific keypad connector manufacturing issue. Due to a manufacturing fault in the terminals used in the connector on the end of the keypad tail where it plugs onto the circuit board, it is possible for a short circuit to develop between two adjacent terminals. Depending on which terminals are shorted this either appears to the panel's software as if a key has been permanently pressed (which stops all other keys from working), or corrupts the reading of whichever keys are pressed.

IDENTIFICATION

The affected keypads were manufactured between 1st March 2006 and 30th October 2006, and were used in production from 1st July 2006 until the end of January 2007.

All QE90 MECP and SECP panels, hardware upgrades with keypads, and spare keypads manufactured between 1 July 2006 and 26 January 2007 are potentially affected.

To determine whether a particular panel contains an in-scope keypad it is necessary to open up the panel and look for the manufacturer's batch label on the keypad tail. This is a white stick-on label with the manufacturing date in the format YYYY-MM-DD printed on it (other information will also be present) – see Fig 1.



Fig 1 – Typical Batch Label (this one dated 28th June 2006)

If the batch label date is in the range 1st March 2006 (2006. 03. 01) to 30th October 2006 (2006. 10. 30), then the keypad is potentially affected, however the actual failure incidence appears to be small and also appears to drop off rapidly with time (i.e. most failures have been detected in factory test or during system commissioning).

Based on to-date failures and warranty return rates, keypad replacement whenever a fault is observed is the recommended action.

Nevertheless, Tyco Safety Products recommends increased vigilance during routine testing and service of QE90 EWIS systems installed in late 2006 and early 2007, particularly in regards to checking correct operation of keypad buttons. Where symptoms as described above are experienced, all keypads (ECP and extender) at the affected MECP or SECP should be replaced.

FIELD CHANGE-OVER

To make field change-over straight forward a range of parts are stocked in Australia and are available free of charge from Tyco Safety Products Melbourne via the standard warranty procedure:

For 21U cabinets with the “3 in 1 door” (a single piece of metal for the 8 zone extender, ECP and WIP tray) it is necessary to order individual replacement membrane keypads, and change over the membrane on the panel in the field. (This option can be used on all systems, but must be used on 21U systems). Carefully peel off the old membrane keypad, remove any residual adhesive from the metalwork, peel the backing paper off the new membrane and carefully fit into the correct position. Do not bend or crease the new membrane as this will damage it.

FA2027 FAB,699-237,QE90 ECP+2Z KEYPAD,NO NAME,3WIP/ZONE

FA2029 FAB,699-238,QE90 8Z EXTENDER KEYPAD,3WIP/ZONE

For other sized cabinets in Australia the following parts can be used. These consist of a new membrane keypad mounted on the appropriate metalwork.

Replacement is straightforward. Power down the panel and remove the complete ECP and Display/Keyboard module assemblies for the entire panel. Disconnect and remove the circuit board(s) and fit to the new metalwork keypad combination. Reinstall the module(s).

ME0381 MECH ASSY,QE90 ECP+2Z KEYBOARD REPLACE,3WIP/ZONE

ME0382 MECH ASSY,QE90 8 ZONE KEYBOARD REPLACE,3WIP/ZONE

When replacement and re-installation of all affected keypads has been completed, power up and test that all the keys on the new keyboard are functioning correctly. Also check that all the LEDs are clearly visible in their on state (Lamp Test can be used to test them all at the same time).

For New Zealand systems use FA2027/FA2029 for all system types.