

TECHNICAL INSTRUCTION

TI 082
Issue 1
December 2007
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NETWORK RAIL - SIGNAL ENGINEERING

Design of Circuits using Micronome and QMT2 Timers

Relevant Standard: NR/GN/SIG/CAT005

Purpose

The Micronome electronic timer was introduced as a replacement for thermal and motor timers which were in short supply. QMT2 motor timers are now being manufactured again and in order to allow either type to be used on installations, wiring for both shall be provided for new works.

Abbreviations & Definitions

Micronome ET-R1 – an electronic timer designed to replace a motor timer.
QMT2 – a motor timer.

Design of Timer Circuits

All new circuits where a QMT2 or Micronome ET-R1 are specified shall be wired so that the other type of timer can be inserted without wiring alterations, this allows the devices to be interchangeable since they share the same pincode (189).

To achieve this, the following principles shall be followed:-

- a) BX110 shall be connected to C1, NX110 shall be connected to D5,
- b) Timer down proving shall utilise B4/B3 and D4/D3 in series,
Note that in the Micronome, D4/D3 consists of an internal strap.
- c) Timer operated shall utilise B1/B2 and C4/C3 in series,
Note that in the Micronome, C4/C3 consists of an internal strap.
- d) An earth connection shall be provided on terminal C5,
- e) Timing straps (in accordance with Appendix A) shall be included,
- f) B50 supply (via control contacts if required) shall be connected to A1,
- g) N50 shall be connected to A3,
- h) Optional timer start contacts may be included between A5 and D1, otherwise a strap shall be provided,
- i) No connection shall be made to A2.

The design shall indicate the device to be installed at initial commissioning but include a note that the alternate device may be used except where a 110V AC supply is not available and only a Micronome is applicable.

Interchanging QMT2 and Micronome ET-R1 Timers

A Micronome timer may not be used in a circuit designed solely for a QMT2 or vice versa. The installation of the extra connections and timing straps is NOT a task which may be undertaken under SMTH.

END

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Compliance Requirements

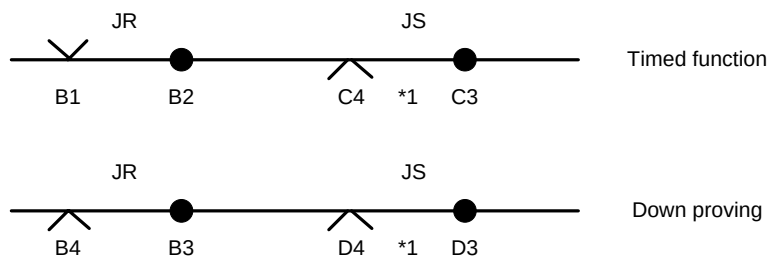
This instruction shall apply to all projects which have not completed GRIP Stage 4 at the compliance date and should be considered for implementation on projects which have not completed GRIP Stage 5.

Action Required

This instruction shall apply to all detailed design of new or altered relay circuitry where QMT2 or Micronome ET-R1 timers are required except where the installation has no 110V AC supply available in which case a Micronome ET-R1 shall be used.

Staff to be Briefed

This instruction is relevant to Maintenance Staff, Signal Project Engineers, Signalling Designers and Signalling Testers.



*1 - Internal strap when Micronome used, proving contact for QMT2

