Generation Signalling Device (GSD) Installer's Manual

ELECTRICAL+INDUSTRIAL | TOOLS+TECHNOLOGIES

TMAC™ THEW & McCANN GROUP

ACTIVE INNOVATION

TQCSI ISO 9001:2015
Quality Certified
AU1313-QC-EC-SC

BEFORE YOU START

SAFETY SYMBOLS USED IN THE GUIDE

Mandatory Action **-** This symbol indicates the action must be taken to avoid a hazard. Any information that follows this symbol must be obeyed to avoid possible harm.

QUALIFIED PERSON

This is a Type 1 DRED according to AS4755.1 and as such shall only be installed by a qualified person i.e. electrician. A qualified person is one who is familiar with the installation, construction, operation or maintenance of the equipment and the hazards involved. In addition, this person is competent, trained and authorized to undertake the work involved in accordance with established safety and working procedures.

GENERAL PRECAUTIONS

Read and understand this guide before operating this equipment.

Read and understand this guide before operating this equipment. The TMAC Generation Signalling Device (GSD) is to be used only by qualified personnel and must be used in conjunction with the user's own working and safety procedures, without compromising the integrity of the TMAC product supplied.

Follow all safety instructions contained within this guide.

DESCRIPTION

The TMAC GSD receives control signals via the mains power input from the electricity supplier and allows the electricity distributor to maintain a stable electricity supply system by instructing the connected Inverter to control its electrical generation output (compliant with Australian Standard AS4777.2:2015 or later).

INSTALLATION INSTRUCTIONS

- The TMAC GSD shall be mounted within the main switchboard or the distribution board with the protective device for the inverter supply.
- The TMAC GSD's "POWER CABLE" is connected to the Mains Switch Inverter Supply (MSIS) and in accordance with the wiring rules (AS/NZS 3000) and can have an extended length of no more than 3 metres.
- The TMAC GSD's "CONTROL CABLE" connects between the GSD and the Inverter's dedicated Demand Response Mode (DRM) connection terminals. If this cable requires extending it must be joined within the switchboard using a suitable Cat5e (or better) extension cable. The method of extension must comply with the requirements of AS/NZ4755.1 and RJ45 pin assignment in this standard must be maintained.
- The product is intended to be connected to the fixed wiring.
- The TMAC GSD must be installed in a manner such that the cables and casing are not subject to UV, water ingress or mechanical damage.
- An individual inverter shall meet the requirements of G01 and multiple inverters shall meet the requirements of G02 and G03 shown below.
- The internal components within the TMAC GSD are factory set and shall never be adjusted.

WIRING OVERVIEW

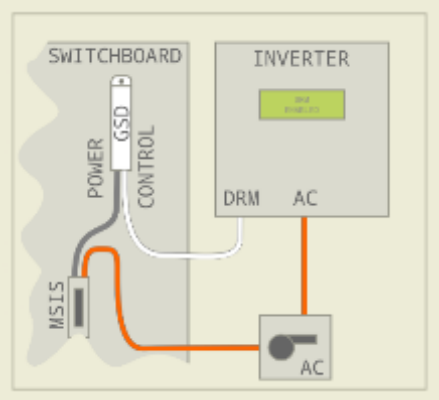


Figure 1 - Wiring Overview

The TMAC GSD has two cables to connect, a POWER cable and a CONTROL CABLE.

The power cable is used to supply mains power to the TMAC GSD and to receive signals from the electricity network.

The control cable is connected to a special dedicated Demand Response Mode (DRM) connection terminal on the Inverter. Consult the installer's manual for the Inverter to find the location of the DRM connection terminal.

General connection diagram applicable for residential installations only. Refer to local Electricity Distributor's documentation for large multi inverter installations.

CONTROL CABLE WIRING DIAGRAM

The TMAC GSD "CONTROL CABLE" connects between the TMAC GSD and the Inverter's dedicated DRM connection terminals. If this cable requires extending it must be joined within the switchboard using a suitable Cat5e (or better) extension cable. The method of extension must comply with the requirements of AS/NZ4755.1 and RJ45 pin assignment in this standard must be maintained

NOTE: THE DRM CONNECTION TERMINAL IS ALWAYS SEPARATE FROM THE AC POWER CABLE CONNECTIONS

NOTE: NEVER CONNECT THE CONTROL CABLE TO THE AC POWER CABLE CONNECTIONS.

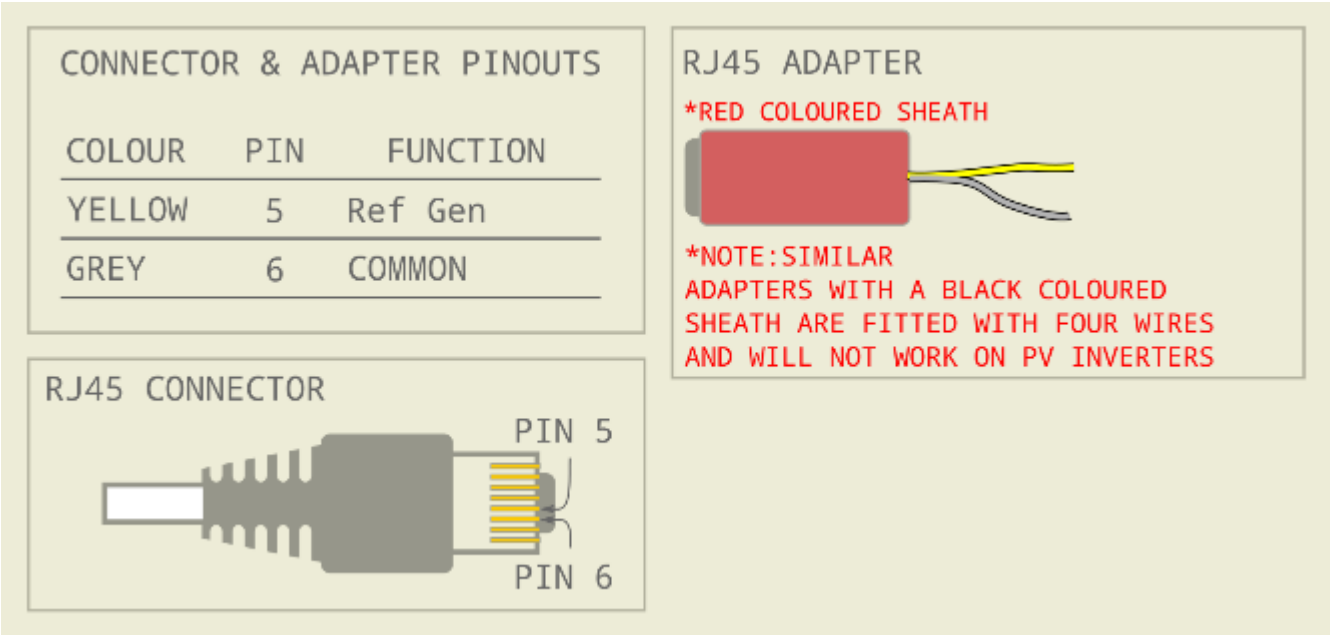


Figure 2 - Control Cable Wiring Diagram

POWER CABLE WIRING DIAGRAM

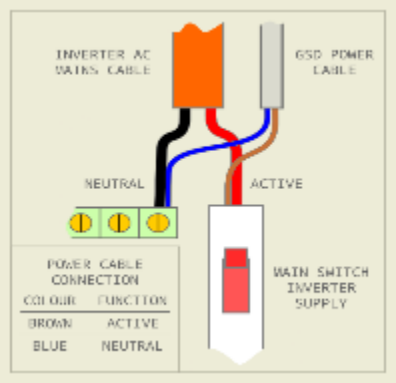


Figure 3 - Power Cable Wiring Diagram

The TMAC GSD POWER CABLE supplies mains power to the TMAC GSD. The POWER CABLE is connected to the Main Switch Inverter Supply (MSIS) within the switchboard.

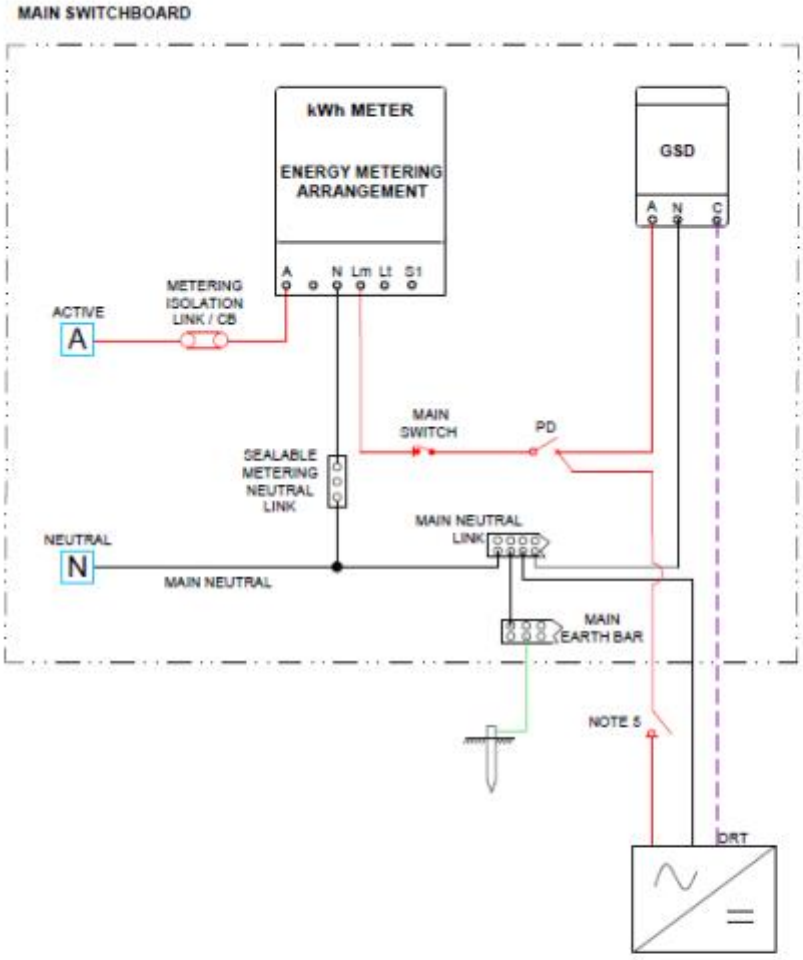
ADDITIONAL RECOURSES

Energex Emergency Backstop Link

Ergon Emergency Backstop Link

Emergency Backstop Mechanism Supplement Link

G01 WIRING DIAGRAM



NOTES

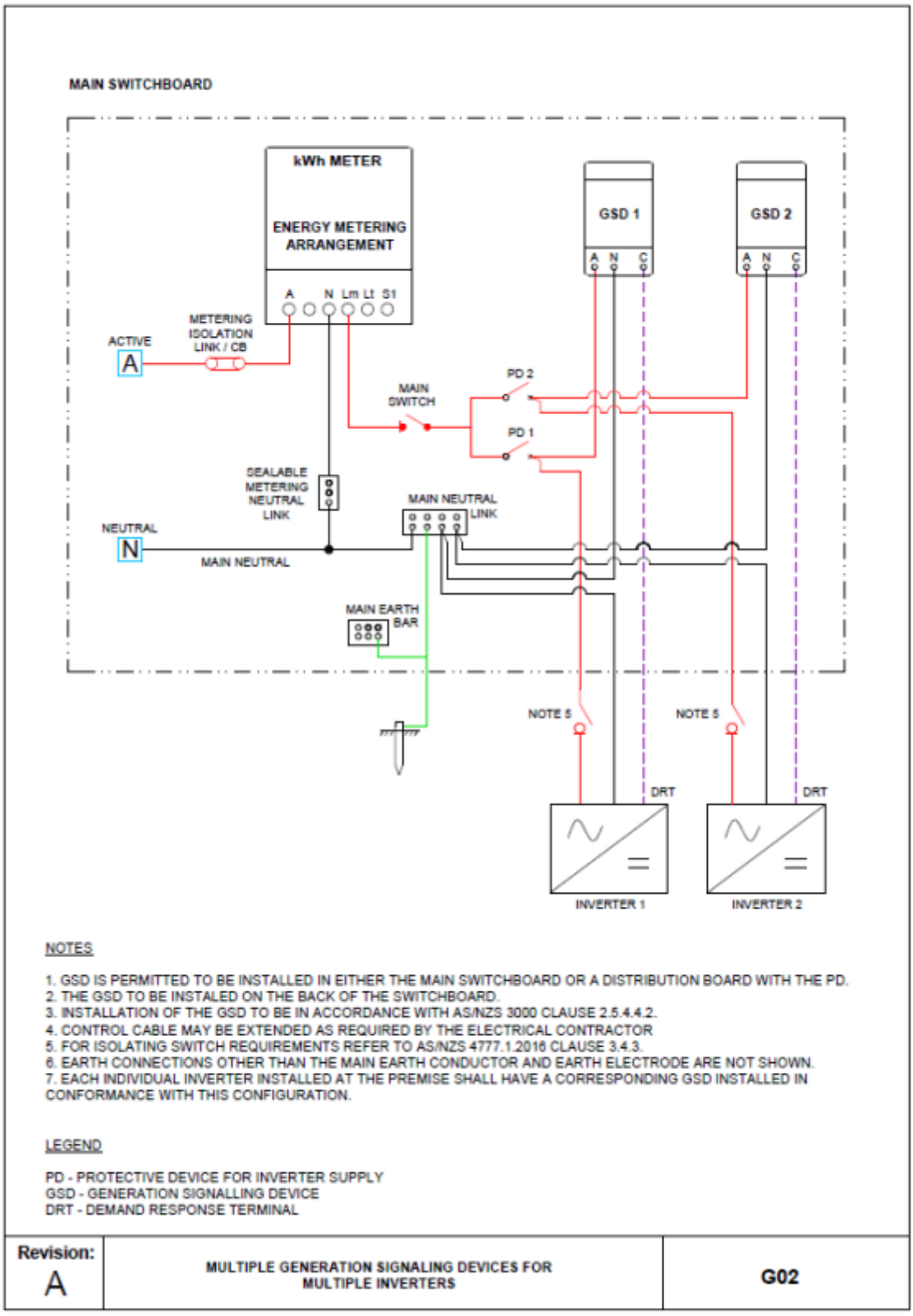
1. GSD IS PERMITTED TO BE INSTALLED IN EITHER THE MAIN SWITCHBOARD OR A DISTRIBUTION BOARD WITH THE PD.
2. THE GSD TO BE INSTALED ON THE BACK OF THE SWITCHBOARD.
3. THE GSD SHALL MEET THE REQUIREMENTS OF AS/NZS 3000 CLAUSE 2.5.4.4.2
4. CONTROL CABLE MAY BE EXTENDED AS REQUIRED BY THE ELECTRICAL CONTRACTOR.
5. FOR ISOLATING SWITCH REQUIREMENTS REFER TO AS/NZS 4777.1.2016 CLAUSE 3.4.3
6. EARTH CONNECTIONS OTHER THAN THE MAIN EARTH CONDUCTOR AND EARTH ELECTRODE ARE NOT SHOWN.

LEGEND.

PD - PROTECTIVE DEVICE FOR INVERTER SUPPLY
GSD - GENERATION SIGNALLING DEVICE
DRT - DEMAND RESPONSE TERMINAL

Revision: A	GENERATION SIGNALING DEVICE FOR SINGLE INVERTER	G01

G02 WIRING DIAGRAM



NOTES

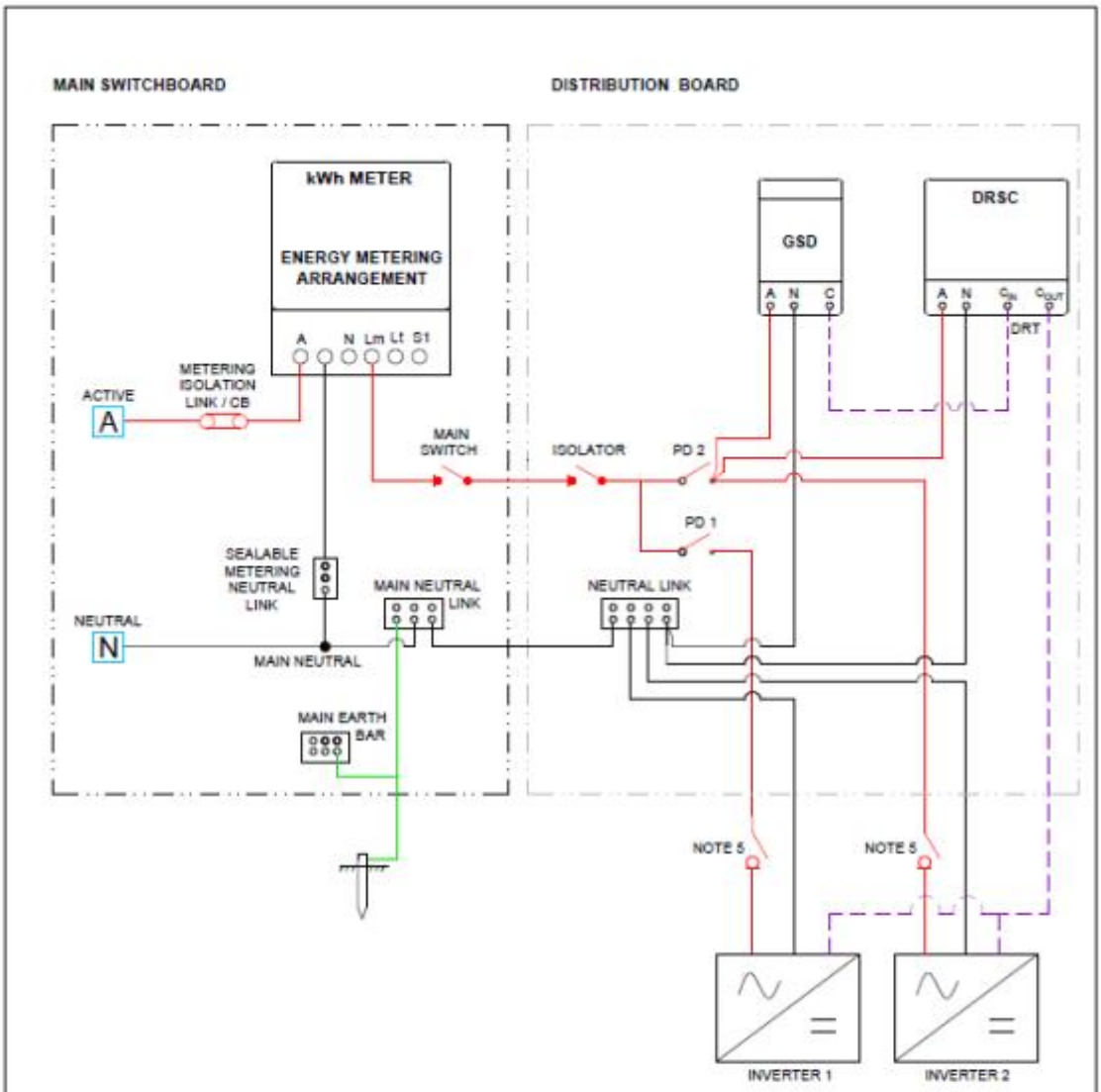
1. GSD IS PERMITTED TO BE INSTALLED IN EITHER THE MAIN SWITCHBOARD OR A DISTRIBUTION BOARD WITH THE PD.
2. THE GSD TO BE INSTALED ON THE BACK OF THE SWITCHBOARD.
3. INSTALLATION OF THE GSD TO BE IN ACCORDANCE WITH AS/NZS 3000 CLAUSE 2.5.4.4.2.
4. CONTROL CABLE MAY BE EXTENDED AS REQUIRED BY THE ELECTRICAL CONTRACTOR
5. FOR ISOLATING SWITCH REQUIREMENTS REFER TO AS/NZS 4777.1.2016 CLAUSE 3.4.3.
6. EARTH CONNECTIONS OTHER THAN THE MAIN EARTH CONDUCTOR AND EARTH ELECTRODE ARE NOT SHOWN.
7. EACH INDIVIDUAL INVERTER INSTALLED AT THE PREMISE SHALL HAVE A CORRESPONDING GSD INSTALLED IN CONFORMANCE WITH THIS CONFIGURATION.

LEGEND

PD - PROTECTIVE DEVICE FOR INVERTER SUPPLY
GSD - GENERATION SIGNALLING DEVICE
DRT - DEMAND RESPONSE TERMINAL

Revision: A	MULTIPLE GENERATION SIGNALING DEVICES FOR MULTIPLE INVERTERS	G02

G03 WIRING DIAGRAM



NOTES

1. GSD IS PERMITTED TO BE INSTALLED IN EITHER THE MAIN SWITCHBOARD OR A DISTRIBUTION BOARD WITH THE PD.
2. THE GSD TO BE INSTALED ON THE BACK OF THE SWITCHBOARD.
3. INSTALLATION OF THE GSD TO BE IN ACCORDANCE WITH AS/NZS 3000 CLAUSE 2.5.4.4.2.
4. CONTROL CABLE MAY BE EXTENDED AS REQUIRED BY THE ELECTRICAL CONTRACTOR.
5. FOR ISOLATING SWITCH REQUIREMENTS REFER TO AS/NZS 4777.1:2016 CLAUSE 3.4.3.
6. EARTH CONNECTIONS OTHER THAN THE MAIN EARTH CONDUCTOR AND EARTH ELECTRODE ARE NOT SHOWN.
7. LAYOUT CAN BE EXTENDED FOR ADDITIONAL INVERTERS.
8. DEMAND RESPONSE SITE CONTROLLER PERMITTED TO BE INSTALLED ON ALTERNATIVE CIRCUIT.

LEGEND

DRT - DEMAND RESPONSE TERMINAL
GSD - GENERATION SIGNALLING DEVICE
DRSC - DEMAND RESPONSE SITE CONTROLLER
PD - PROTECTIVE DEVICE FOR INVERTER SUPPLY

Revision: B	GENERATION SIGNALING DEVICE WITH DEMAND RESPONSE SITE CONTROLLER FOR MULTIPLE INVERTERS	G03

DEFECTS / WARRANTY

DEFECTS

Our goods come with guarantees that cannot be excluded under Australian Consumer Law (ACL). You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if goods fail to be of acceptable quality and the failure does not amount to a major failure.

WARRANTY

In addition to the rights which you have under the ACL (set out above) TMAC will provide an additional 12 month warranty for its DCSR from the date of purchase.

Please contact the seller by email sales@tmacgroup.com.au, phone 07 3826 6000 or fax 07 3826 6066 for claims related to defective / warranty of goods provided.

FOR FULL DETAILS OF OUR ADDITIONAL WARRANTY, PLEASE REFER TO TMAC's WARRANTY STATEMENT AND TERMS AND CONDITIONS LOCATED ON OUR WEBSITE AT https://www.tmacgroup.com.au/resource-type/policies/