

## Introduction

The general purpose input output port has many uses including the following operating options, all programmable via ICORE:

A general purpose input which may be programmed to:

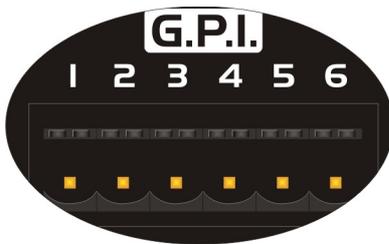
- ✓ Control the amplifier's standby/active state (logic level)
- ✓ Mute both channels (logic level)
- ✓ Bypass the power on delay (logic level)
- ✓ Variable VCA level control of both channels (analogue voltage)
- ✓ Bypass the VCA sections (logic level)

A general purpose output which may be programmed to:

- ✓ Indicate A/P state
- ✓ Indicate excessive limiting on either channel (15 minutes continuous)
- ✓ Indicate a load range error
- ✓ Indicate your birthday
- ✓ Indicate an excessively high temperature state (before shutdown)
- ✓ Logical combinations of the above

An isolated changeover relay is also brought out to this port. This may be programmed to:

- ✓ Follow the GPO output state
- ✓ Follow the opposite of the GPO output state (invert its logic)
- ✓ Do nothing (disabled)



The connections on this port also include a 3V3 output for use with all logic or analogue level inputs. For ground (0V) connections, this must be derived from the RS485 "Phoenix" connector.

The pin-out of this port is:-

- Pin1: Isolated relay normally open contact (ON state)
- Pin2: Isolated relay common contact
- Pin3: Isolated relay normally closed contact (OFF state)
- Pin4: 3V3 Output
- Pin5: GP Input (maximum input voltage 24V, useable range 0V – 3V3)
- Pin6: GP Output (OFF state = 0V, ON State = 3V3)

Connection to building management systems to report amplifier errors

As explained earlier, the general purpose output line and its associated relay, may be configured through ICORE to trigger on a variety of error conditions. In this example, we will configure the line to trigger if the amplifier goes into protect.

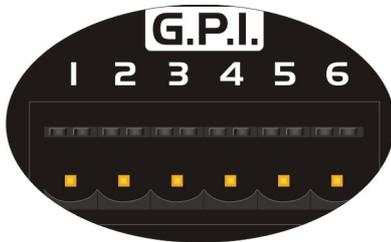
In ICORE, select the amplifier and open its properties window (View ⇒ Device Properties)



Set the GPIO Config “Output” property to “A/P Monitor”, and the “Aux Relay” property to “Follows GP Out”.

This ensures that, should the amplifier go into “Protect” for any reason, it will send the output pin on the GPI port high, and also flip the state of the relay.

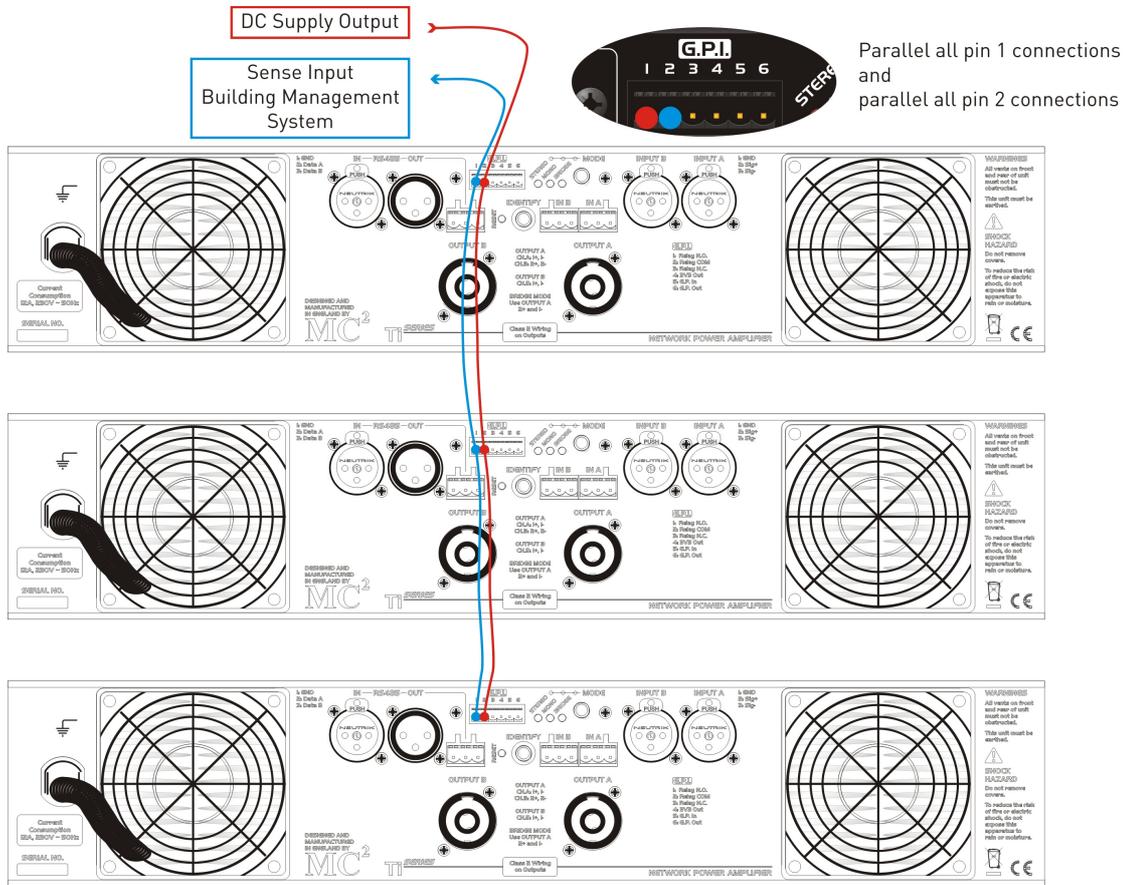
If the building control system will recognise a 3V3 signal, then just connect its “sense” input to pin 1 of the GPI port.



If the system requires a higher voltage (12V and 24V are common) then connect an appropriate supply to the common relay pin (pin 2) and the “sense” input to the normally open relay contact (pin 1).

If multiple amplifiers are required to all be connected to the same “sense” line, then the relay output must be used. In this case, connect the appropriate “trigger” voltage to the common relay contact and parallel up the normally open contacts, as shown overleaf:

# Ti Series Amplifiers: GPI Port: Error Reporting



Note that changing the property of the “Output” GPIO Config will make the amplifier trigger its output line (and relay, if enabled) in response to different conditions, such as excessive limiting, or measured load errors.

Please see the operator’s manual for how to configure the amplifier to monitor its connected loads.