

TS0827 4-Input Data Gathering Panel Installation Sheet

Description

A TS0827 4-Input Data Gathering Panel (DGP) adds four zone inputs to a Challenger V8 system, at a specified DGP address (1 to 15).

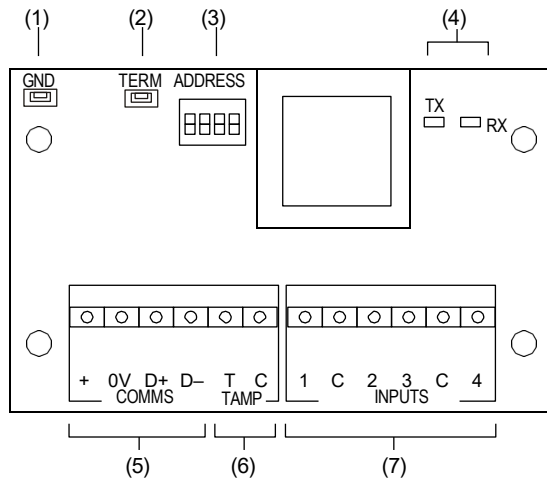
Each DGP address nominally has 16 zone input numbers available. A TS0827 DGP uses only the first four zone input numbers at the DGP address: the remaining 12 zone input numbers at the address cannot be used for connecting physical zone input devices.

Note: The TS0827 DGP cannot use input expansion modules or relay expansion modules.

The TS0827 DGP's zone inputs can be monitored for input tamper conditions (four-state) or for only sealed and unsealed conditions (two-state). See "Input tamper monitoring" on page 2 for details.

Terminals for connecting an enclosure tamper switch are provided (see Figure 1 below, item 6).

Figure 1: TS0827 PCB details



1. Ground link (to remain fitted)
2. LAN termination link
3. Address DIP switch
4. RX and TX LEDs
5. Terminals for Challenger RS-485 LAN
6. Terminals for enclosure tamper switch
7. Terminals for four inputs

Product contents

Quantity	Item
1	TS0827 4-Input Data Gathering Panel
4	3-way plug-on screw terminal
5	M3x10 pan-head Phillips screw
4	PCB support stand off
9	10K 1/4 watt resistors
1	Installation Sheet

Inspect the package and contents for visible damage. If any components are damaged or missing, do not use the unit; contact the supplier immediately. If you need to return the unit, you must ship it in the original box.

Installation

TS0827 DGPs are mounted on standoffs (supplied) using M3 x 10 mm pan head screws (supplied) inside an enclosure (not supplied). The TS0827 PCB is size 'B'.

NOTICE! A qualified service person, complying with all applicable codes, should perform all required hardware installation.

Configuring the DGP

Configure the DGP for the local environment.

To configure the DGP:

1. Determine the DGP's address on the LAN.
2. Set the LAN address via the four-segment Address DIP switch (see Figure 1 above, item 3) according to Table 1 on page 2.
3. If required, terminate the LAN by installing the TERM link (see Figure 1 above, item 2).

If the DGP is the last device on the RS-485 LAN the LAN termination should be ON. In a star wiring configuration, the RS-485 LAN may consist of a number of cable runs (branches). LAN termination should be set to ON only at the devices at the far ends of the two longest branches. A star LAN that has multiple branches in excess of 100 m may need to use TS0893 LAN Isolation Interface modules to isolate the LAN segments that do not have LAN termination set to ON.

Table 1: Address DIP switch settings

Address	SW1	SW2	SW3	SW4
01	I	O	O	O
02	O	I	O	O
03	I	I	O	O
04	O	O	I	O
05	I	O	I	O
06	O	I	I	O
07	I	I	I	O
08	O	O	O	I
09	I	O	O	I
10	O	I	O	I
11	I	I	O	I
12	O	O	I	I
13	I	O	I	I
14	O	I	I	I
15	I	I	I	I

Legend: I = ON, O = OFF

To install the DGP:

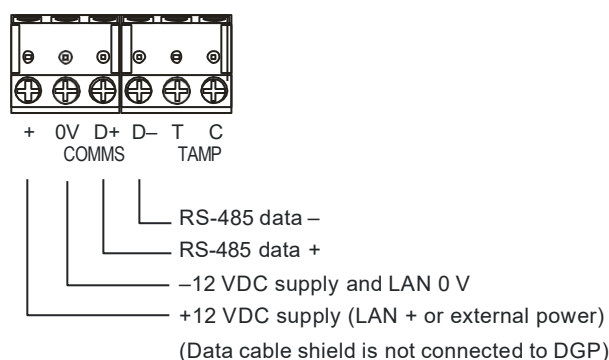
1. Disconnect the plug pack and battery from the panel.
2. Insert four standoffs (supplied) into the DGP enclosure.
3. Use four M3 x 10 pan head screws to fix the DGP to the standoffs.
4. Terminate cabling as described in "Wiring" below.
5. Reapply power to the panel.
6. Program the panel to poll the DGP at the required address (the type is "standard").
7. Check the RX and TX LEDs for correct operation (see "LED indications" on page 3).

Wiring

Connecting the DGP to the LAN

Connect the DGP to the Challenger RS-485 LAN (and to external power if required) according to Figure 2 below.

Figure 2: LAN and power connections



LAN cable recommendation. Use four-wire, twisted-pair, shielded data cable (such as Belden 8723) to connect the DGP to the Challenger RS-485 LAN.

The length of the LAN cable run must not exceed 1.5 km unless LAN Isolation Interfaces are used to extend the distance.

LAN cable shield. In each segment of the LAN cable, connect one end only of the cable shield to a LAN earth terminal (typically at the panel). A device that does not have an earth point and is not at the end of the LAN will have in and out LAN segments. Join the LAN cable shields for the in and out segments to make, in effect, one continuous shield that is connected at one end only to a LAN earth terminal.

Powering the DGP. The Challenger panel may be used to power the DGP in the following circumstances:

- The LAN cabling distance is no more than 100 m (if using Belden 8723).
- Electrical isolation is not required.

If powering the DGP from the Challenger panel is not practicable, then you must use an external power supply (such as TS0073).

Enclosure tamper monitoring

Connect the T and C terminals (Figure 1 on page 1, item 6) to the optional enclosure's tamper switch. The tamper switch must be a normally-open type.

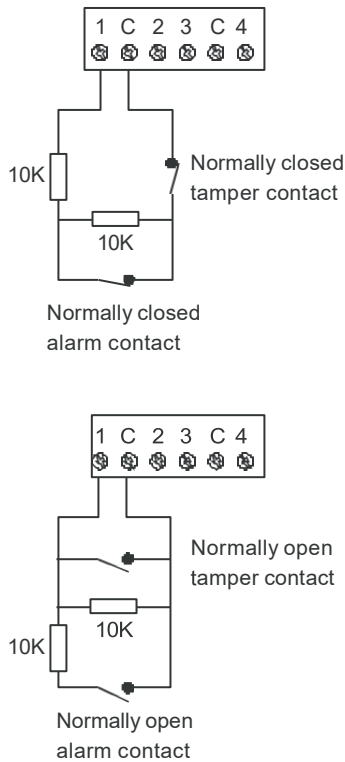
Input tamper monitoring

By default, the Challenger system can monitor zone inputs for four states (sealed, unsealed, open circuit, and short circuit). This is accomplished by using two 10 kΩ end-of-line (EOL) resistors in each zone input circuit, as shown in Figure 3 on page 3.

Install EOL resistors in zone input circuits at the end of the circuit. If an alarm device is connected, place the EOL resistors at the device's connections. If a zone input is not used, you don't need to connect an EOL resistor if you program the corresponding input number as type 10 (spare).

Tip: Use sleeves on the resistor leads to prevent accidental shorting.

Figure 3: Four-state monitored zone input circuits



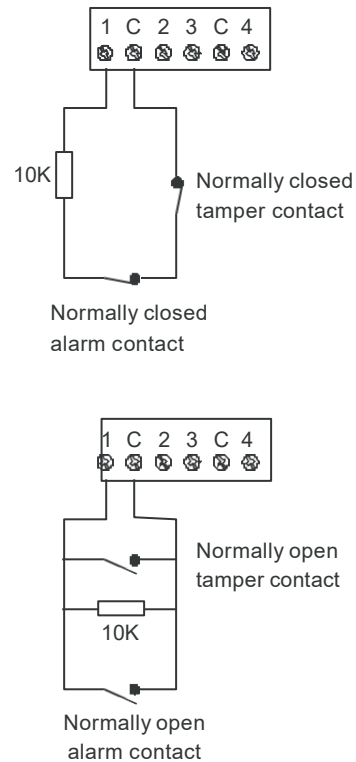
When four-state monitoring is used, the panel uses the circuit's resistance to determine the state of the zone input:

- 10 k Ω indicates sealed
- 5 k Ω or 20 k Ω indicates unsealed
- Open circuit indicates input tamper
- Short circuit indicates input tamper

To use four-state monitoring for all zone inputs, input tamper monitoring must be set to Yes (Install menu option 7, System Options).

Alternatively, the Challenger system can be configured to monitor zone inputs for two states (sealed and unsealed). This is accomplished by using one 10 k Ω resistor in each circuit, as shown in Figure 4 below.

Figure 4: Two-state monitored zone input circuits



The panel uses the circuit's resistance to determine the state of the zone input:

- 10 k Ω indicates sealed
- Open circuit or short circuit indicates unsealed

To use two-state monitoring for all zone inputs, input tamper monitoring must be set to No (Install menu option 7, System Options).

Note: Two-state monitoring is not compatible with input types 33 or 40. See the *Challenger V8 & V9 Programming Manual* for details.

LED indications

Rx and Tx LEDs (Figure 1 on page 1, item 4) indicate the following:

- **Rx LED.** Flashing indicates polling data being received on the LAN from the Challenger panel. No flashing indicates a LAN fault (usually cabling), or the Challenger panel is not operational.
- **Tx LED.** Flashing indicates the DGP is replying to polling from the Challenger panel. Rx LED flashing but no Tx LED indicates the DGP is not programmed to be polled or is addressed incorrectly.

Specifications

Voltage	10.5 to 13.8 VDC
Max. operating current	45 mA at 13.8 VDC
Dimensions (W × H)	Tecom 'B' size (80 x 52 mm)
Zone inputs	4
Challenger panel max.	15 DGPs
Operating environment	
Storage Temperature	-20 to +80°C
Operating Temperature	0 to 70°C
Relative humidity	0 to 95% noncondensing

Note: Units should only be used in a clean environment and not in humid air.

Regulatory information

Manufacturer	KGS Fire and Security Australia Pty Ltd Suite 4.01, 2 Ferntree Place Notting Hill, VIC, 3168, Australia
Year of manufacture	The first two digits of the product serial number (located on the product identification label) are the year of manufacture.
Compliance	 N4131

NOTICE! This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Disclaimer

The customer is responsible for testing and determining the suitability of this product for specific applications. In no event is Aritech (a division of KGS Fire and Security Australia Pty Ltd) responsible or liable for any damages incurred by the buyer or any third party arising from its use, or their inability to use the product.

Contact information

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