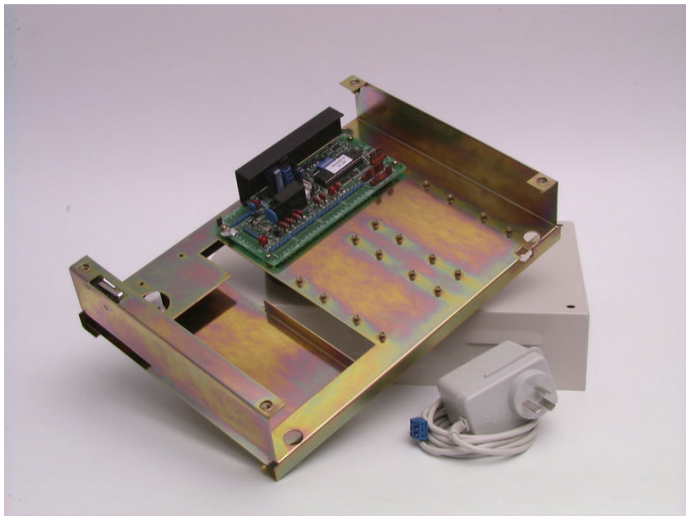
TS0868 High Level Lift Protocol Controller Installation Sheet



Description

TS0868 High Level Lift Protocol Controllers are used with TS0869 Four-Lift Controllers to provide seamless integration between the Challenger system and third-party lift controllers (such as Otis or KONE).

Each TS0869 Four-Lift Controller must be fitted with a TS0890 Challenger Integration Unit (sold separately), which provides an RS-485 connection to the TS0868 controller.

The TS0868 model includes a metal enclosure with front and rear tamper switches. The TS0868B model is a board-only version.

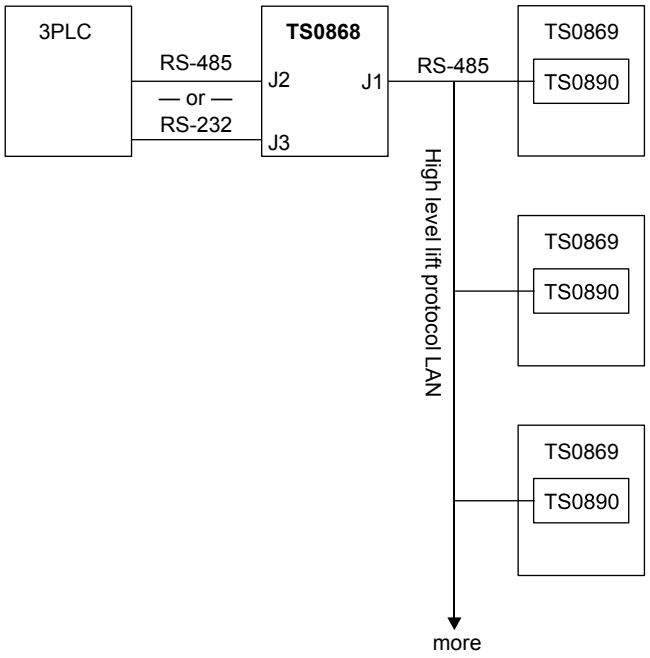
Product contents

Quantity	Item
1	TS0868 High Level Lift Protocol Controller
1	16 VAC plug pack
1	Enclosure (not applicable to TS0868B)
1	Red battery lead with QC terminal
1	Black battery lead with QC terminal
1	Ring terminal
1	2-way plug-on screw terminal
7	3-way plug-on screw terminal
1	M3x10 pan-head Phillips screw
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.

Figure 1 below shows a sample application where one TS0868 controller is used to connect three TS0869 Four-Lift Controllers to a third-party lift controller (3PLC).

Figure 1: System diagram



Installation

TS0868 controllers are mounted in a Challenger system enclosure (supplied).

When installing a TS0868 controller, or any other parts of the Challenger system, you need to be aware of requirements for cabling and earthing, and plan accordingly.

Refer to the *Challenger V8 & V9 Installation and Quick Programming Manual*, REV 7.0 (or later) for our latest recommendations.

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

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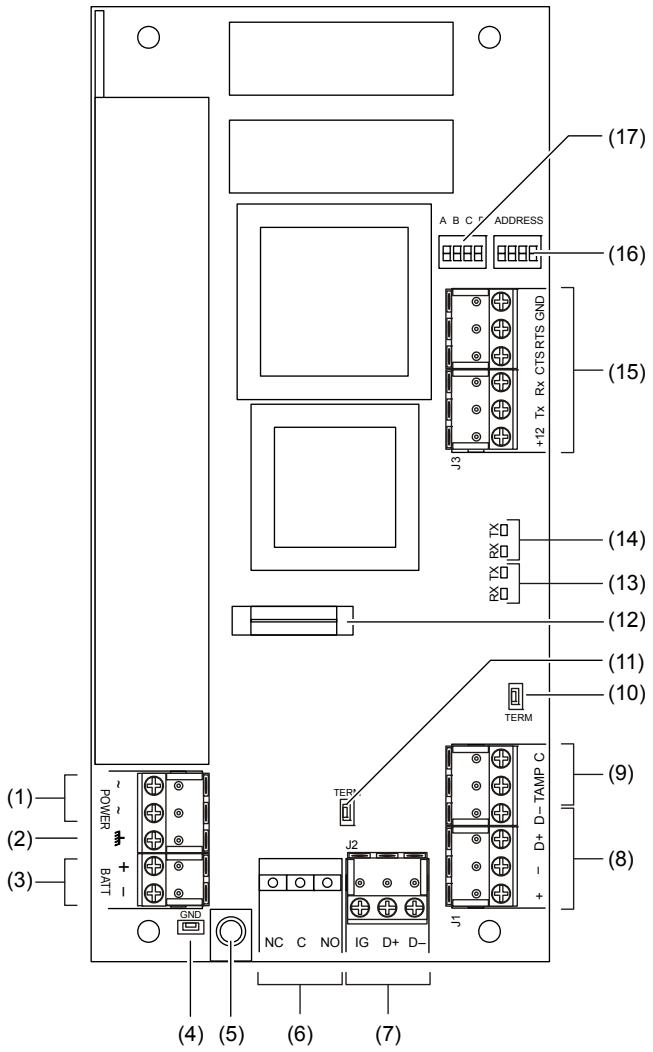
Figure 2: TS0868 PCB details



1. Terminals to 16 Volt AC plug pack (supplied).
2. Connect the earth terminal to the shield of the RS-485 data cable.
3. Connect the + and – terminals to a 12 V sealed lead acid battery, 7.0 Ah maximum (not supplied).
4. Ground link (to remain fitted).
5. Connect the PCB earth terminal via minimum 2.5mm² GNYE earth cable (not exceeding 1 Ω) to a Communications Earth Terminal (CET).
6. Not used.
7. (J2) Terminals for RS-485 connection to third-party lift controller.
8. (J1) Terminals for RS-485 connection to TS0890 modules fitted to TS0869 Four-Lift Controllers.
9. Terminals for the enclosure's front and rear tamper switches.
10. RS-485 LAN termination link for J1.
11. RS-485 LAN termination link for J2 (if used).
12. Fuse (1A) for auxiliary power output.
13. RX and TX LEDs for J1 (RS-485 port).
14. RX and TX LEDs for J3 port or J2 port, as applicable.
15. (J3) Terminals for RS-232 connection to third-party lift controller.
16. Address DIP switch (to configure the serial port).
17. ABCD DIP switch (to configure operating mode).

Terminating the RS-485 LAN(s)

A TS0868 controller is not connected to the Challenger system's RS-485 LAN, but does communicate via RS-485 to TS0890 modules fitted to each Four-Lift Controller.

If the TS0868 controller is at the end of the RS-485 LAN the LAN termination link (Figure 2 above, item 10) 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.

Also, the TS0868 controller may be configured to communicate via RS-485 to third-party lift controllers. If needed, use the LAN termination link (Figure 2 above, item 11) to terminate the RS-485 LAN to third-party lift controllers.

Configuring the serial port

Use the Address DIP switch (Figure 2 above, item 16) as shown in Table 1 below to configure the port.

Table 1: Address DIP switch settings

SW1	SW2	SW3	SW4	Application
O	O	O	O	1200 baud, no parity
I	O	O	O	2400 baud, no parity
O	I	O	O	4800 baud, no parity
I	I	O	O	9600 baud, no parity
O	O	I	O	1200 baud, even parity
I	O	I	O	2400 baud, even parity
O	I	I	O	4800 baud, even parity
I	I	I	O	9600 baud, even parity
O	O	O	I	1200 baud, no parity
I	O	O	I	2400 baud, no parity
O	I	O	I	4800 baud, no parity
I	I	O	I	9600 baud, no parity
O	O	I	I	1200 baud, odd parity
I	O	I	I	2400 baud, odd parity
O	I	I	I	4800 baud, odd parity
I	I	I	I	9600 baud, odd parity

Legend: I = ON, O = OFF

Configuring the operating mode

Use the ABCD DIP switch (Figure 2 above, item 17) as shown in Table 2 on page 3 to configure the operating mode. Switch A is not used.

Notes

- RS-485 mode is available only for 1200 or 2400 baud rates.
- Table 2 on page 3 applies to TS0868 v1.04 and later.

Table 2: Configuration DIP switch settings

SWB	SWC	SWD	Application
O	O	O	RS-485 mode, Otis v2 protocol
I	O	O	RS-232 mode, Otis v2 protocol
O	I	O	RS-485 mode, KONE v2 protocol
I	I	O	RS-232 mode, KONE v2 protocol
O	O	I	RS-485 mode, Otis v1 protocol
I	O	I	RS-232 mode, Otis v1 protocol
O	I	I	RS-485 mode, KONE v1 protocol
I	I	I	RS-232 mode, KONE v1 protocol

Legend: I = ON, O = OFF

Wiring

Powering the TS0868 controller. Connect the AC terminals to 16 Volt AC plug pack (supplied). Do not connect the plug pack earth cable to the TS0868 controller.

LAN cable recommendation. Use four-wire, twisted-pair, shielded data cable (such as Belden 8723) for the 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. 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.

Serial cable recommendation. Use 4-core shielded RS-232 data cable (for example, Belden 9534) to connect the J3 serial port to the third-party lift controller, when used in RS-232 mode. Maximum cable length is 15 m.

Enclosure tamper monitoring

Connect the TAMP and C terminals (Figure 2 on page 2, item 9) to the front and rear tamper switches (supplied) in series (short circuit for sealed, open circuit for unsealed). The terminals must be sealed if not used. Can only be used with normally closed contacts such as the panel tamper switches.

When mounting the enclosure, make sure the enclosure is level, and the tamper switch location isn't sitting over a line of mortar if you're installing the enclosure on a brick wall.

LED indications

Rx and Tx LEDs are provided for the RS-485 port (Figure 2 on page 2, item 11) and the RS-232 port (Figure 2 on page 2, item 12). The LEDs indicate the following:

- **RS-485 Rx LED.** Flashes to indicate TS0890 modules are replying to polling.
- **RS-485 Tx LED.** Flashes to indicate the TS0868 controller is polling TS0890 modules. The LED should always be active.
- **RS-232 or RS-485 Rx LED.** Flashes to indicate data being received from a third-party lift controller.
- **RS-232 or RS-485 Tx LED.** Flashes to indicate data being sent to a third-party lift controller.

Event reporting

TS0868 controllers report controller events and lift events to the Challenger system via event numbers. These event numbers can be used as inputs for DGP macro event programming.

Refer to the *Four-Door & Four Lift Controller Programming Manual* for details.

Specifications

Voltage	16 to 18 VAC from supplied AC plug pack
Operating current	150 mA maximum (no peripheral devices fitted)
Auxiliary power output	750 mA maximum
Maximum TS0869 Four-Lift Controllers	16 on multiple Challenger systems
Dimensions (W × H)	Tecom 'A' size (174 x 84 mm)
Enclosure dimensions (W × H × D)	274 x 364 x 75 mm
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	UTC Fire & Security Australia Pty Ltd Level 1, 271–273 Wellington Road, Mulgrave, VIC, 3170, 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 Interlogix (a division of UTC Fire & 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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