

Technical Quick Guides

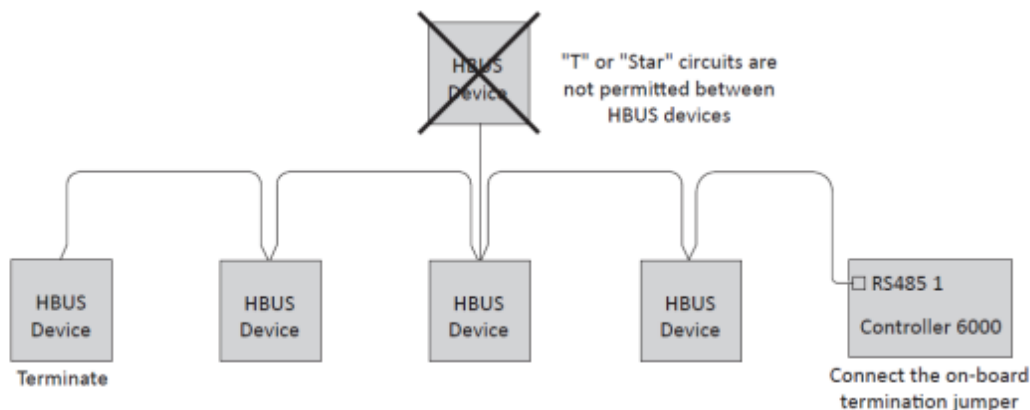
Gallagher HBUS cable and reader wiring guide

Gallagher HBUS

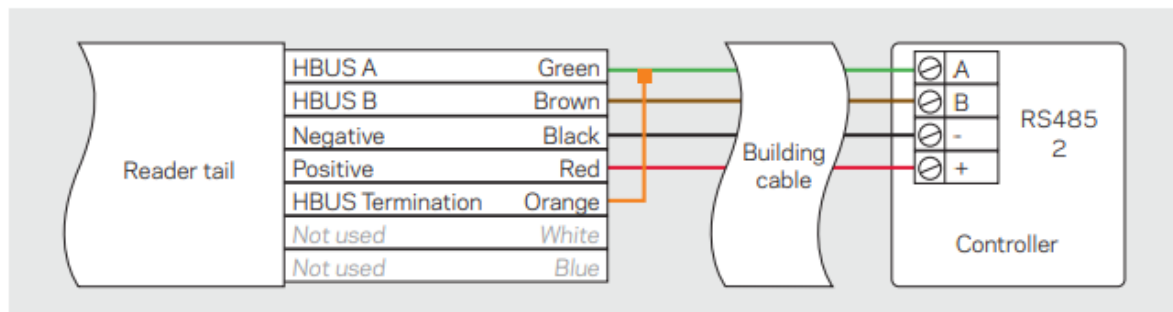
The HBUS communications protocol allows a single reader to communicate up to 500m (1640ft) from the controller, when using data only in a single CAT5E cable.

Cabling should be a minimum size of 0.2mm² (24AWG). The cabling between HBUS devices should be done in a “daisy chain” topology, (i.e. a “T” or “Star” topology should not be used between devices). Should “Star” or “Homerun” wiring be required, the HBUS 4H/8H Modules and the HBUS Door Module allow multiple HBUS devices to be individually wired to the one physical location.

The end devices on the HBUS cable should be terminated using 120 ohms resistance. To terminate the Gallagher Controller 6000, connect the supplied on-board termination jumpers to the Controller. To terminate the Gallagher T30 Keypad Reader, connect the orange (termination) wire to the green (HBUS A) wire. Termination is already included in the HBUS Module, (i.e. each HBUS port is permanently terminated at the module)



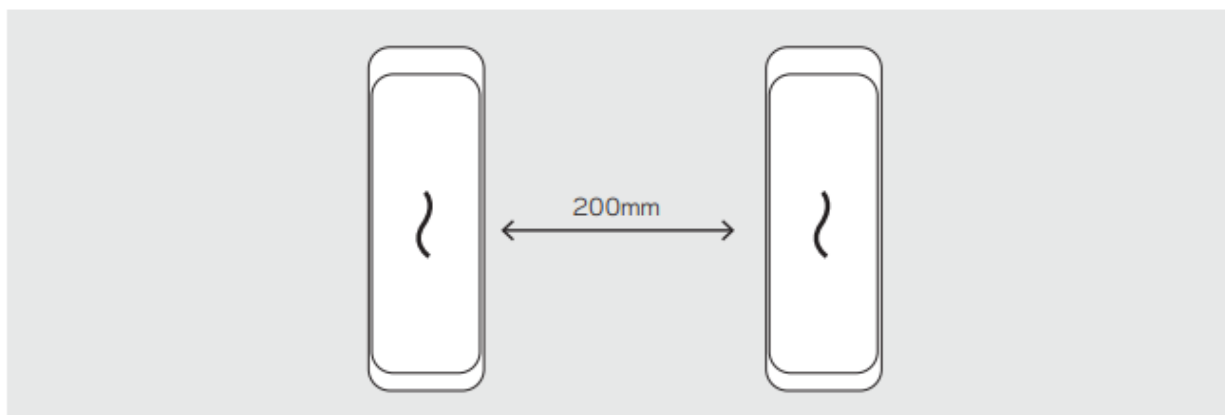
Connect the reader tail to the building cable. If the reader is the last device on the run, terminate the reader by connecting the Orange wire to the Green wire.



Distance between readers

The distance separating any two readers must not be less than 200mm (8") in all directions.

When mounting the reader on an internal wall, check that any reader fixed to the other side of the wall is not less than 200mm (8") away.



Cable Distance

Cable distance

Cable type	Cable format*	Single reader connected using HBUS data only in a single cable	Single reader connected using power and data in a single cable***
CAT 5e or better**	4 twisted pair each 2 x 0.2 mm ² (24 AWG)	500 m (1640 ft)	50 m (165 ft)
BELDEN 9842** (shielded)	2 twisted pair each 2 x 0.2 mm ² (24 AWG)	500 m (1640 ft)	50 m (165 ft)
SEC472	4 x 0.2 mm ² Not twisted pairs (24 AWG)	400 m (1310 ft)	50 m (165 ft)
SEC4142	4 x 0.4 mm ² Not twisted pairs (21 AWG)	400 m (1310 ft)	100 m (330 ft)
C303900/ C303901 Gallagher HBUS Cable	2 Twisted pair each 2 x 0.4 mm ² (21 AWG, Data) and 2 x 0.75 mm ² Not Twisted Pair (~18 AWG, Power)	500 m (1640 ft)	200 m (650 ft)

* The matching of wire sizes to equivalent wire gauges are only approximate.

** Recommended cable types for optimal HBUS RS485 performance.

*** Tested with 13.6V at start of cable.

Notes:

- Shielded cable may reduce the obtainable cable length. Shielded cable should be grounded at the Controller end only.
- If other cable types are used, operating distances and performance may be reduced depending on the cable quality.
- The recommendation for optimal performance is up to 20 T30 Keypad Readers can be connected to one Controller 6000.