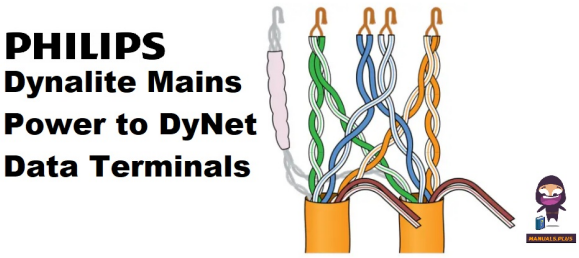

PHILIPS Dynalite Mains Power to DyNet Data Terminals Owner's Manual

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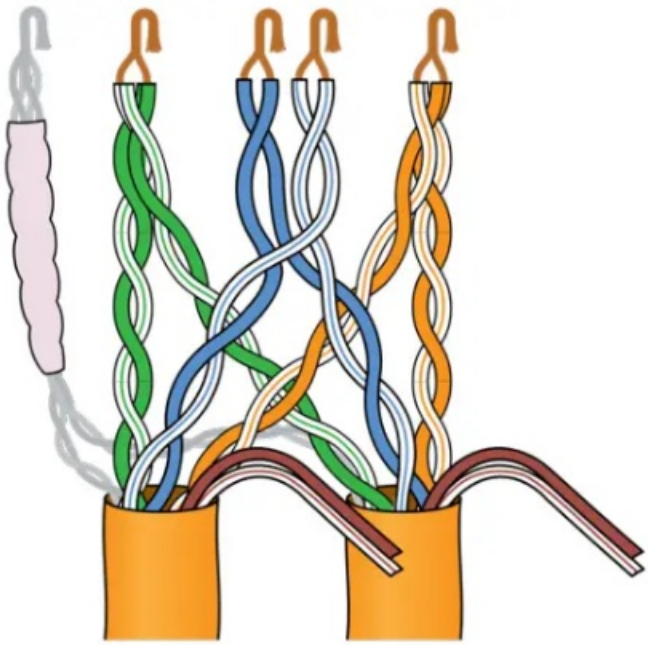
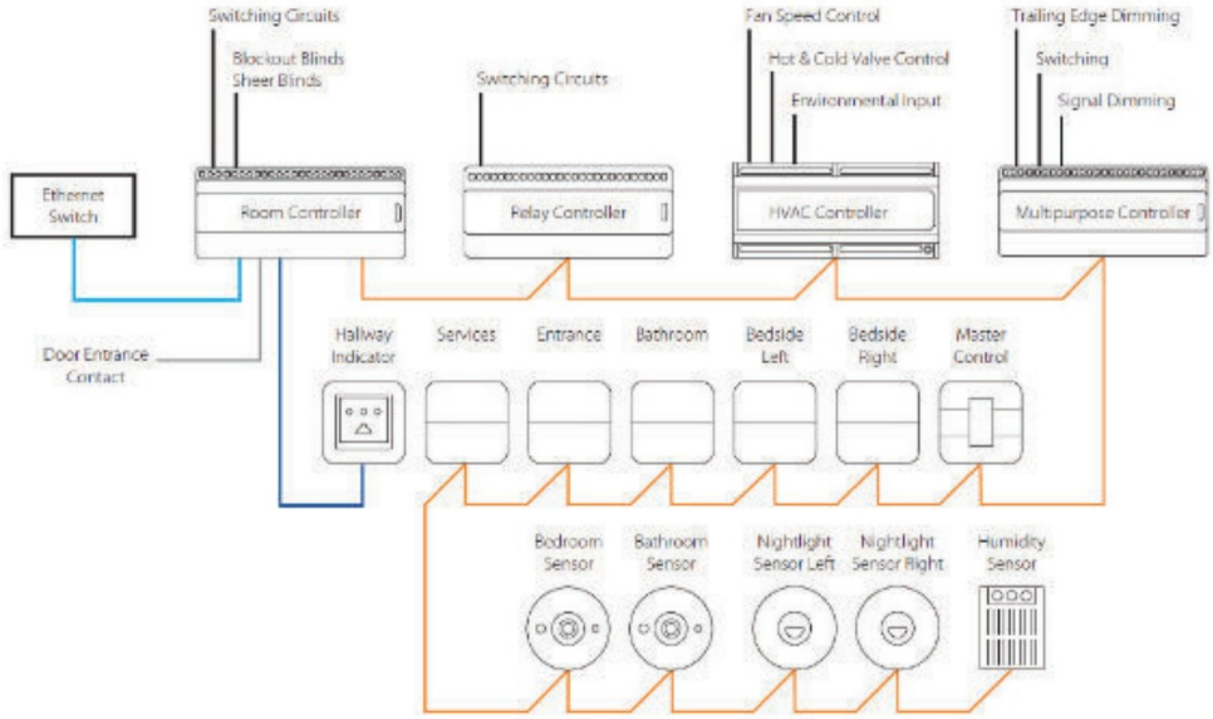
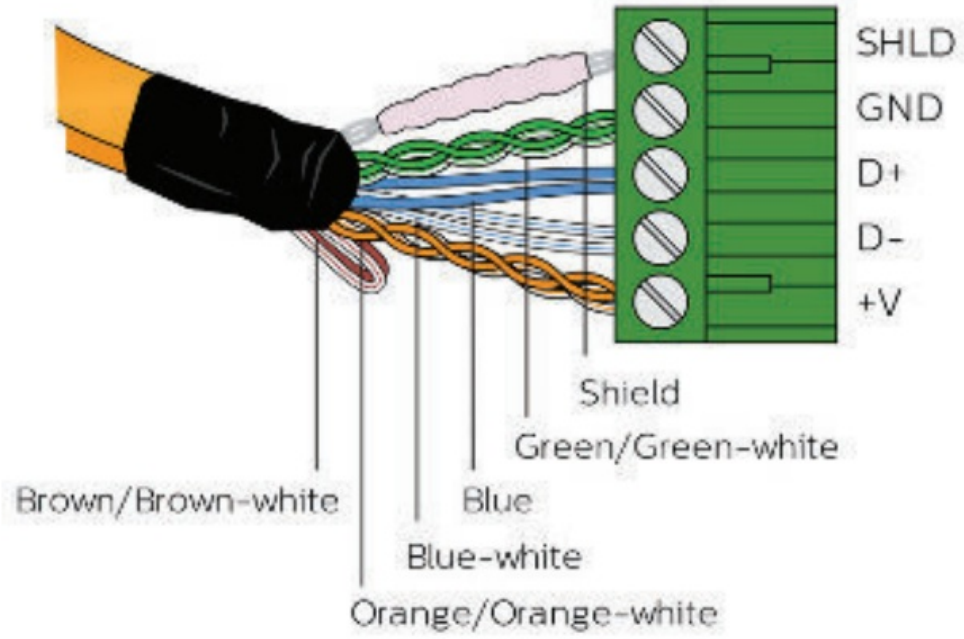


Installing the Data Network

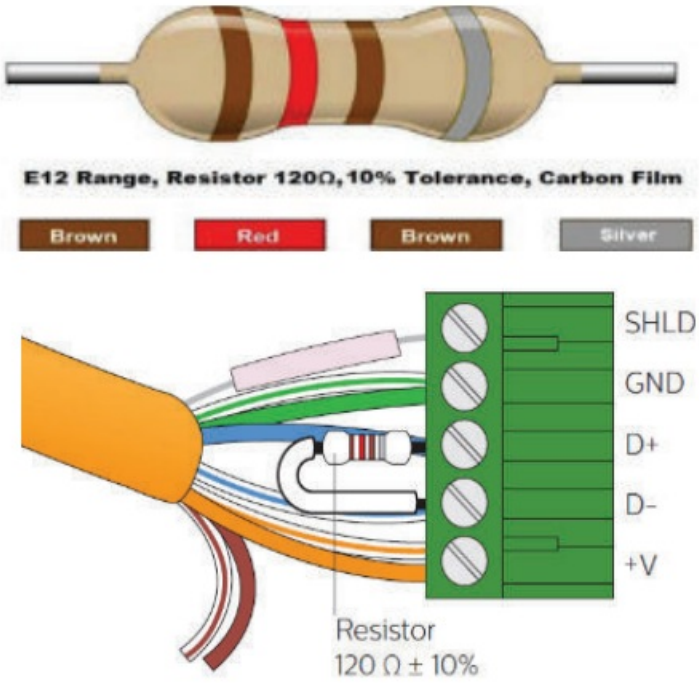
Do NOT connect DALI or mains power to DyNet data terminals.



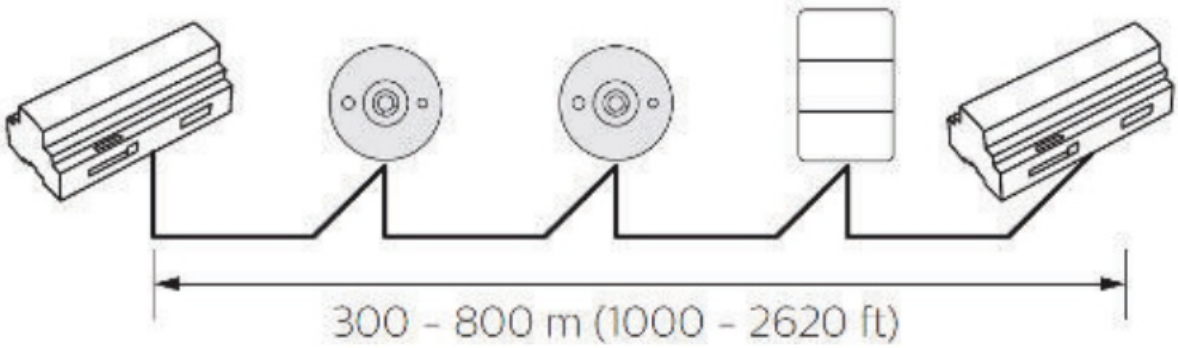
1. The data cable is connected to all devices as per the project schematic following the correct color code and DyNet terminations. Devices may be wired in any order.



2. The recommended connection method is to ‘daisy chain’ devices in sequence, starting at the first device, then looping in and out of each device, with a single cable terminating at the last device. There should not be any branching, and only the first and last device should terminate a single cable, all other devices should terminate two cables.
3. A data cable that is connected to an energized device is live. Do not cut or terminate live data cables.
4. The cable tail can be returned to the original distribution board. Ground wire and power wire (+V) can be connected in a loop but D+ and D– must NOT be connected in a loop. Do not connect power wire (+V) in a loop where segmentation is required between network sections that have multiple power supplies deployed, to ensure Network cable current limits are not exceeded.
5. The maximum allowed power supply rating and data cable current for any section of the network is the lowest of either 2 Amps or the Cable rating per local wiring code or cable manufacturer specification. Where required, apply power wire (+V) segmentation per network design to prevent exceeding limits. Use only approved DyNet power supplies to ensure network reliability and safety.
6. The data cable should be segregated from mains cables by a minimum of 50 mm (2 in) for shielded cable and 300 mm (12 in) for unshielded cable or as per local wiring code specification (whichever is greater). If the data cable crosses over any mains cables, it should cross at 90°, whilst maintaining correct segregation. The wiring segregation distance may be reduced if either data cables, mains cables, or both are fitted in separate grounded metal conduits.
7. On Button Panels and Sensors, the Shield wires must be terminated into the shield terminal. Shield wires are automatically earthed on each controller. For controllers that do not have a shield terminal, the shield should be twisted together and taped to the cable sheath to maintain continuity.

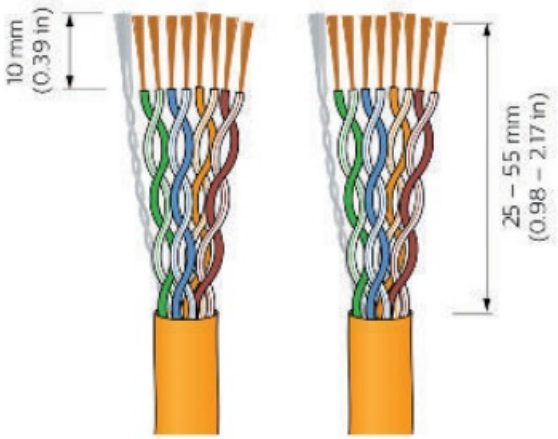


8. The maximum recommended length for DyNet cables between two network bridges is 800 m (2620 ft). For cable runs over 300 m (1000 ft), (or baud rates over 9600 bps), 120 Ohm, 2 W end-of-line resistors must be installed across the D+ and D- terminals of the DyNet connector strip on the first and last devices.

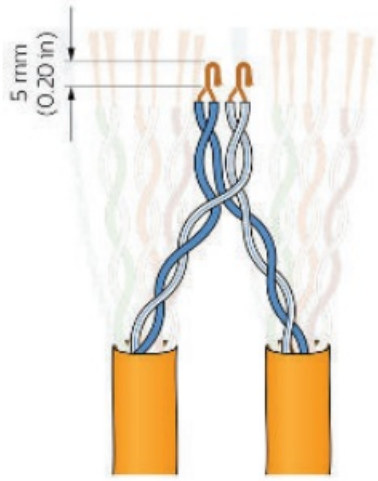


Data Cable Termination

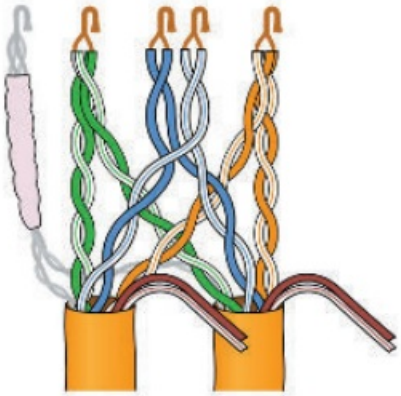
1. Strip off the outer jackets of cables being daisy-chained.
2. Shielded cables only: Cut foil or braid flush to the outer jacket. DO NOT cut the drain (shield) wire.



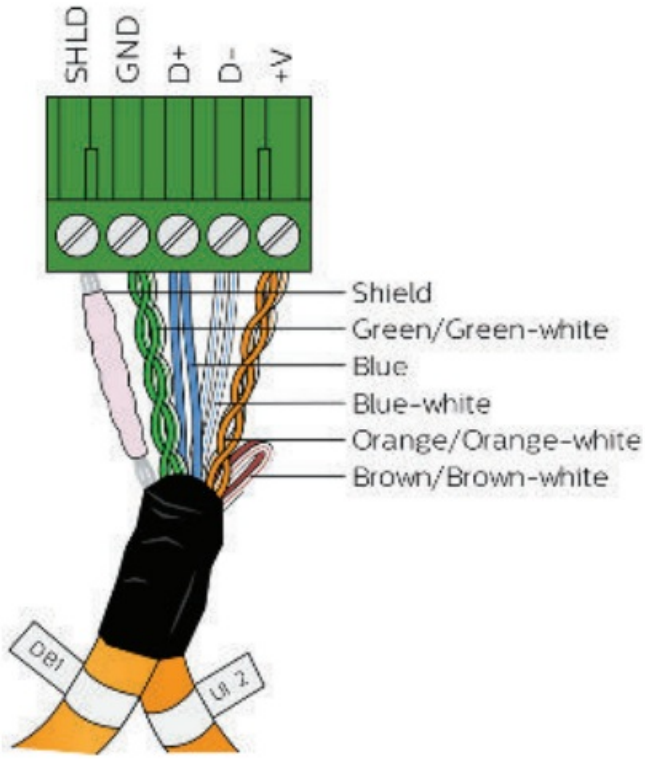
3. Strip insulation from each of the conductors.



4. Bind the two cables around the end with electrical tape or use a cable tie (see final drawing).



5. Separate the blue and the blue-white wires from each other. Then combine them with the matching wires from the other cable; blue to blue and blue-white to blue-white.



6. Twist the remaining conductor ends with the matching colored wires and fold the ends in half. Isolate the unused pair with a connector or tape.
7. Reuse a wire insulation offcut (or heat shrink tubing) and fit over the drain wire.
8. Terminate the wires on the pluggable screw terminal block. (If used, shrink the heat-shrink tubing)
9. Label or tag the cable appropriately.

Recommended cable types

For serial port connections, the recommended cable is screened RS-485/Cat5e/6 data cable, such as DyNet-STP-CABLE-LSZH.

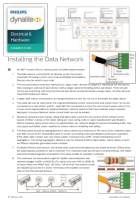
Supplier	Cable
Dynalite	DyNet-STP-CABLE-LSZH
Dynalite	DyNet -SFLAT6-CABLE. Limited to 9600 bps. Maximum length 100 m (330 ft).
Belden	1502R or 1502P (P = plenum)
Belden	9503

Belden is available from Bayview Technologies
at www.bayviewtech.com.au

We recommend a maximum of 300 m segments 9600bps for a spur with mixed topology. For long lengths up to 800 m and on trunks with up to 115 kbps speed, 120 Ohm, 2 W terminating resistors must be added on both ends of the network (like in the DMX512 case) and the daisy chain is the only topology option. Belden 1502 or equivalent, with low or no DC load on +V power wire, can achieve distances over 300 m (1000 ft). CAT5e/6 has higher resistance, so we recommend 300 m (1000 ft) for those with 0.2 mm2 (24 AWG) wires as a conservative limit, provided GND and +V use a twisted pair in parallel as shown on drawings.

- Other STP CAT5/6 cable types may be used, provided their specifications meet or exceed Dynalite specifications and local Wiring Code requirements.
- Use of UTP (unshielded) CAT5/6 cables is not recommended, however, may perform acceptably for short runs of under 15 m (50 ft) where there is no risk of noise coupling. UTP cables shall not be used in installations with capacitive sensing technology products (User Interfaces with DACM), otherwise, a correct operation may not be achieved.
- UTP cables must be installed in grounded metal conduits if there is a risk of noise coupling from Mains or UL Class 1 cables (switched power circuits, high-frequency power electronics devices, HVAC, and motor drives, etc.). If the installation conditions dictate the use of UTP CAT5/6 cables (e.g., retrofit scenarios where existing cabling is reused), it may require the Proximity Sensing feature to be disabled on related products, with the installer taking full responsibility for any related performance issues.

Documents / Resources

	PHILIPS Dynalite Mains Power to DyNet Data Terminals [pdf] Owner's Manual Dynalite Mains Power to DyNet Data Terminals, Mains Power to DyNet Data Terminals, Power to DyNet Data Terminals, DyNet Data Terminals, Data Terminals, Terminals

References

- Bayview Technologies - Belden, Amphenol, Canare, Neutrik, Leviton, Fischer - audio, video, RF50 Ohm, fibre and communication cables & connectors
- Dynalite | Philips lighting
- Dynalite | Philips lighting

- **User Manual**