Introduction to Routefinder

Routefinder is an automatic emergency lighting testing and reporting system to BS EN 62034 using industry standard IEC 62386 DALI communication protocol. It allows the user to identify luminaire health status locally at panel level or if system is networked then centrally at PC level for ease of maintenance and operation.

The Routefinder system comprises simple interactive touchscreens detailing the current performance of the emergency network. A two-wire communications DALI subnet connects all emergency inverters so that they share performance and operation information.

The system is designed for organisations seeking an automated, efficient, cost effective and reliable means of meeting the mandatory requirements. The automatic central test systems guarantees regular testing and monitoring of emergency lighting and will reduce the cost of maintenance.

Routefinder can be purchased as a stand alone system with a range of compatible integral and stand alone emergency luminaires that can be integrated into the Routefinder system. Larger systems can be constructed easily by linking Routefinder touchscreens together through an ethernet spine allowing information from each Routefinder touchscreen to be shared. Please note that the Ethernet spine uses TCP/IP protocol.

Ethernet Cable: 1 x RJ45 10/100Mbps, Cat 5e up to 100m (Audio MDI/MDI-X Crossover). All equipment, wiring and connections are the responsibility of the customer. Please note that the Ethernet Network is to be supplied and installed by others.

For Central access to the Routefinder system via a Head End PC, our additional complimentary central monitoring software will be supplied.

Emergency Operation

In any emergency situation when the mains supply fails, or in a test situation where the supply failure is simulated, the Routefinder system will switch the light source from the normal supply circuit to the emergency inverter supplied from the batteries. Routefinder uses the industry standard IEC 62386 DALI communication protocol and can be commissioned and programmed to conduct duration and frequency emergency testing in line with the requirements of BS EN50172.

System Features

- Whitecroft emergency luminaires (COMEPS .../EP) are fully compatible
- Note: Luminaires must comply with the DALI standard (Device Type 1 as per IEC 62386-202)
- With a networked system, up to 50 panels can be connected
- Each emergency luminaire has a unique address
- Test schedules can be programmed to suit the usage schedule of the building
- Testing times and dates can be easily programmed
- Failures indicated locally at the luminaire and on the Routefinder Interactive display. Where a centralised report for emergency testing status is required, complimentary software will be loaded onto client's PC
- Tests are automatically recorded and stored with the ability to upload from the Interactive Display Unit and can be exported using a PC or local USB device

Another great advantage of Routefinder is that the DALI subnet may be wired in a free topology. This means that any wiring configuration may be used so long as it does not exceed the maximum DALI subnet cable length of 300m, or the maximum load capacity of 64 devices or 250mA. Whitecroft recommends design levels of 54 devices per DALI subnet to allow future expansion.
DALI emergency modules consume 1 DALI address and 2mA.

The Routefinder Interactive panel provides two DALI subnets.
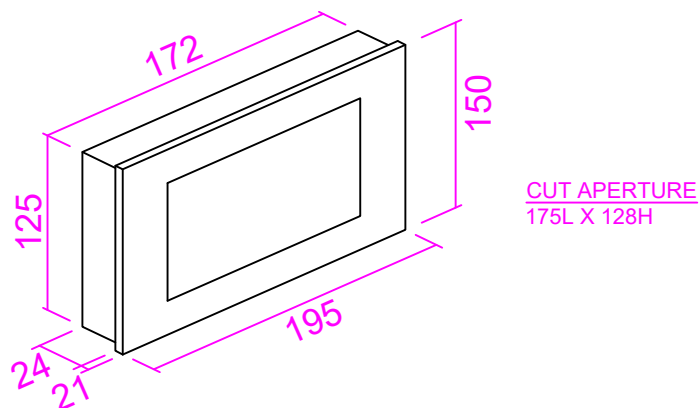See following examples of typical Routefinder system.

System indicating healthy status

System indicating faulty status

Routefinder Panel Dimensions

CUT APERTURE
175L X 128H
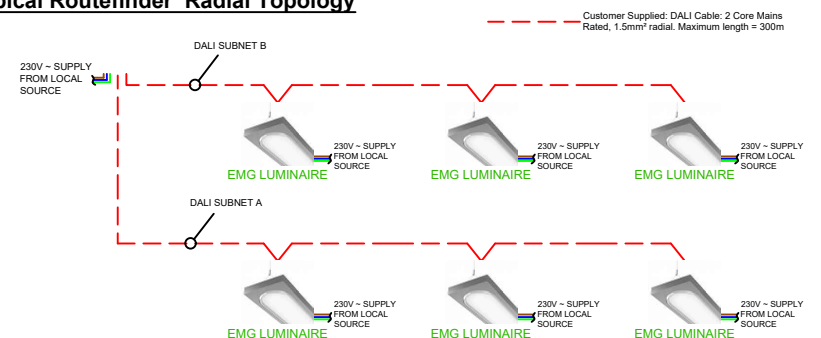
Routefinder Technical Data

- Rated Voltage and Frequency: 230v @ 50/60Hz
- Temperature Range: 0°C to +40°C
- Touch Screen: Resistive
- LCD: 7" @ 800 x 480, 64K
- DALI: Single master supporting 2 self-powered bus (short circuit protected)
- Supported DALI Accessory: Self-contained emergency luminaire (Device Type 1 as per IEC 62386-202)
- Memory Capacity: 10 Years
- Power Rating: 5.1W Nominal, 16.4W Peak
- Weight: 560g
- Dimensions (H x W x D): 150 x 195 x 45mm
- DALI Cable: 2 Core 1.5mm² radial. Maximum length = 300m. When DALI and mains cable share containment, DALI cable to be rated at same potential voltage as mains (although the DALI cable operates at ELV potential it is not classified as SELV). All wiring and connections are the responsibility of the customer
- Ethernet Cable: 1 x RJ45 10/100Mbps, Cat 5e up to 100m. All equipment, wiring and connections are the responsibility of the customer

Note: The centralised network that allows PC connectivity to the Routefinder panels for status reporting of the emergency testing can be as follows:
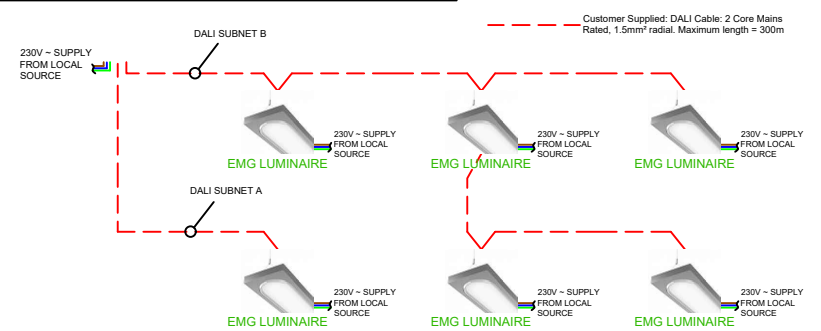
The network will be Ethernet based, it must adhere to a minimum of standard Ethernet rules. We would recommend the Ethernet network to be a dedicated VLAN, however the routers can share a customers' Ethernet network infrastructure. When sharing a customers network we will need to be issued with Static IP addresses for each Routefinder panel, each PC and an allowance for some additional IP addresses.
All cabling infrastructure needs to be installed, tested and verified and static IP addresses issued before we attend site to commission.
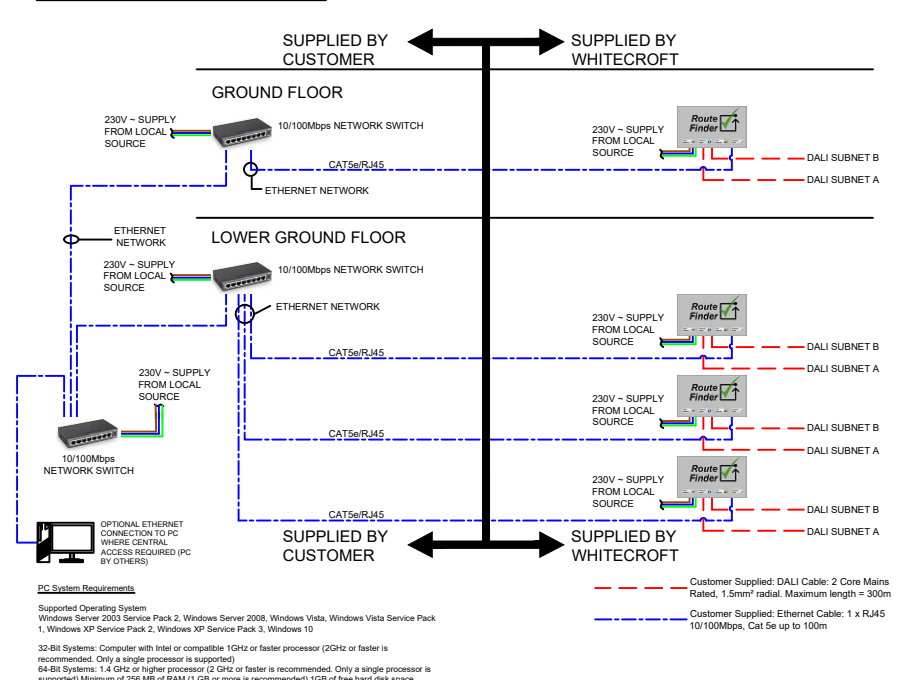
Typical Routefinder Radial Topology

Typical Routefinder Branched Radial Topology

Typical Routefinder System

Routefinder Wiring Application Notes
Rev 3:- 04 / 01 / 22