

# SHINZ<sup>®</sup>

Innovating Future

LEAD YOUR WAY OUT  
FROM THE DARK

# SK-16ST



Automatic Testing



#### Reference Standard

MS 983:2004,  
MS 619-2-22:2005  
(IEC 60598-2-22:1997 and Amd.  
1:2022, MOD)



LiFePO<sub>4</sub>








# TECHNICAL CHARACTERISTIC

Mode of Operation	: Maintained Mode
Input Voltage	: AC240V~
Input Wattage	: 2.5W
Input Current	: 0.014A
Frequency	: 50Hz
Lamp Type	: 28 x 1 Watt LED 6000K
Power Factor	: 0.8
Charger	: Solid State Electronic Automatic
Charger Monitor	: Permanent Red LED on
Test Monitor	: Red LED Flashing (Refer Fig.A)
Fault Monitor	: Green LED Flashing (Refer Fig.A)
Test Facility - Manual	: Push-To-Test Switch
Test Facility - Automatic	: Automatic Testing
Battery Type	: 3.2VDC 1500mAh High Temperature Sealed Lithium Iron Phosphate (LiFePO4)
Back Up Duration	: 3 hours
Operating Temperature	: ta 35°C
Weight	: 1.1kg
Mounting	: Wall / Ceiling
Degree of Protection	: IP 20
Fitting Construction	: Cast Extrusion Aluminium
Warranty	: 2 -5 Years (Terms and Conditions apply)
Dimensions	: Refer to Fig.B
Installation Guide	: To be provided in individual packing.
Operation Manual	: QR code provided at Installation guide
Reference Standard	: MS 983:2004, MS 619-2-22:2005 (IEC 60598-2-22:1997 and Amd. 1:2022, MOD)



Figure A

## STATUS INDICATIONS

LED Indication	LED Figure	Status
Permanent On		Charging or Standby - AC mode
Red LED Flashing @1Hz		Monthly <b>Functional</b> Test activated and take around 30sec. to complete
Red LED Flashing @3Hz		Yearly <b>Duration</b> Test activated and take around ~90 minutes. to complete
Green LED Flashing @1Hz		Battery and Charging Circuit Fault.
Green LED Flashing @3Hz		Light Source or Monthly test fail

Note :

The Yearly Duration Test is a partial discharge test to determine the condition of the battery and therefore the test duration is set at ~90 minutes. If the duration test fails a proper test and inspection shall be conducted by the maintenance personnel.

Figure B

## PRODUCT DIMENSIONS

LENGTH	570 MM
HEIGHT	175 MM
WIDTH	26.5 MM



# SK-16ST

LEAD YOUR WAY OUT FROM THE DARK

An internally illuminated 'KELUAR' signs need to be visible at all times, not just when the power to the normal lights fail. If a building needs to be evacuated under normal circumstances all the lights are on and people will look around for their nearest exit - the signs need to be the right size for the viewing distances and not be obscured.



The new SK-16ST (EL-T) have upgraded and designed its features with an 'Automatic Testing' and 'Fault Alerts'. An architecturally pleasing with 2in1 combine accessories to enable for either surface wall or ceiling recess mount which is Cost Effective and Flexible Mounting solutions. Our aim is to design a compact, slim and easy-to-install product that would fit into an ever-diminishing ceiling void and through a minimum cut-out.



EL is short for "Emergency Lighting", the extra "T" in EL-T stands for "Automatic Testing". This means, EL defines the basic requirements that are relevant for all emergency lighting control gear, EL-T includes all of these basic requirements plus some additional ones that are relevant for automatic testing.

EL and EL-T are self-compliance marks. They confirm that emergency lighting control gear comply with all the relevant standards. Like the CE mark, EL and EL-T work as self-compliance mark. This means that the manufacturer is responsible for putting on the mark. The marks can be used without further investigation through an external certification body.

## How does self-test emergency lighting work and why is it increasingly important for end-users?

Self-test emergency products can reduce the burden of testing emergency lighting installations as these perform all mandatory testing automatically, removing the need for the user or building owner to perform manual testing. The luminaire performs its own functionality test and an LED indicator on the device draws attention to any issues.

Monthly functional tests and annual full duration tests are automatically initiated with results shown via an LED indicator on the indicating light. The responsible person need only check the status of the LED indicator and record the results in the log book. This still requires manual checks / physical walk-arounds and it also requires manual and reactive rectification work.

### Testing Requirements



Check Charge Function



Check Lamp Operation



Check Battery Capacity



Check Duration

Not only is this a far less time-consuming and lower-cost operation than with manual testing, it also ensures that maintenance personnel are only required to attend to lights with reported faults. Where a fault is identified the LED indicator will report (Blink) what is at fault and continue to report (Blink) this until the fault has been rectified.

## SPECIFICATIONS FOR INTERNALLY ILLUMINATED 'KELUAR' SIGNS

- Self-Contained internally illuminated "Keluar Sign" with automatic testing (EL-T) system, maintained mode of operation that comes with high temperature sealed Lithium Iron Phosphate (LiFePO<sub>4</sub>) batteries to back up 3 hours( 180Minutes) constantly when power failure. The EL-T system shall provide **functional** test on LED source, inner charger & switch over control monthly and **duration** test on battery capacity yearly. An indicator shall be alert (blink) draws to any fault issues on lighting circuit, battery capacity and charging circuit.
- The Self-Contained internally illuminated "Keluar Sign" shall be tested and comply to MS 983:2004, MS619-2-22:2005 (IEC 60598-2-22:1997 and Amd. 1:2022, MOD)
- The LiFePO<sub>4</sub> Batteries shall comply to both safety standard of IEC 62133:2012 and performance standard IEC 62620:2014.
- The Self-Contained internally illuminated "Keluar Sign" fitting is constructed using cast extrusion aluminium frame with IP20 that suitable for indoor exit ways such as anti-panic areas, emergency escape route and high-risk task areas.



Saving Time & Money



Testing Causes No Disruption



More Effective and Reliable than Manual Testing



Easy to Install

# EXIT SIGN – KELUAR SIGNS

*'Indicate Escape Direction Clearly - Even In Changing Emergency Conditions'*

Illuminated exit signs with a built-in lamp incorporate a pictogram - such as the iconic 'green running man' - indicate a fire exit or other safe escape direction. The pictogram is illuminated from behind to provide luminance to at least requirements MS IEC60598-2-22 & EN 1838.

## Breaking new ground

There are a number of important developments in exit signs, from minimizing their environmental impact to minimizing their visibility. **Adaptive technology** now enables signs to dynamically change indicated direction to improve evacuation efficiency depending on conditions detected by the emergency lighting management system or control room operator.

The bright, uniformly-lit appearance of today's **clean, flat profile designs with no visible screw heads** enable designers to combine good looks with fail-safe functionality.



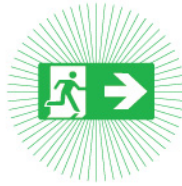
Wall Surfaced Mount



Ceiling Recessed Mount

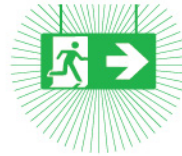


Ceiling Suspension Knob



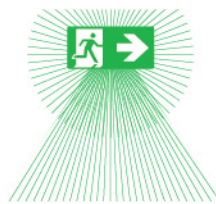
## WALL-MOUNTED

**Wall-mounted** exit signs are available to cover a range of locations and in various mounting options, including surface, recessed and flag. Single- and double-sided variants, as well as different viewing distance specifications, make wall mounted signs a flexible option for a wide variety of room sizes and applications.



## CEILING

The comprehensive range of exit sign luminaires suitable for **ceilings** includes surface-mounted, suspended and recessed units. Single- and double-sided variants, as well as different viewing distance specifications are also available for ceiling mounted signs.



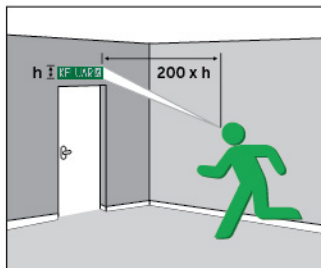
## COMBINATION SIGNS

Combination signs perform two functions: illuminating the safety sign pictogram on one or two sides, as well as surfaces and spaces.

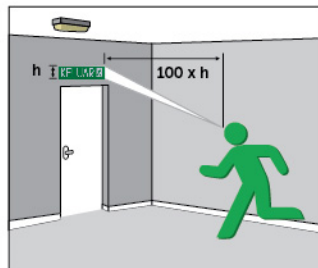
# REFERENCING TO EN1838 / MS2687:2018 GUIDELINES - (MVD)

**Maximum Viewing Distance (MVD)** and luminance conditions are detailed for safety sign formats in EN1838:2013. Signs can either internally illuminated or non powered type. Non powered Exit Signboards including photo-luminescent signs need to be illuminated to minimum of 5 lux whenever premises are occupied. Therefore, an emergency luminaire must be sited within 2 meter.

The internally **illuminated KELUAR signs** shall be positioned as required mounting height between 2 m and 2.5 m above floor level. If this is not possible, the relevant authority should be consulted.



Maximum viewing distance  
For internally  
**Illuminated Signs**  
 $d (h \times 200)$



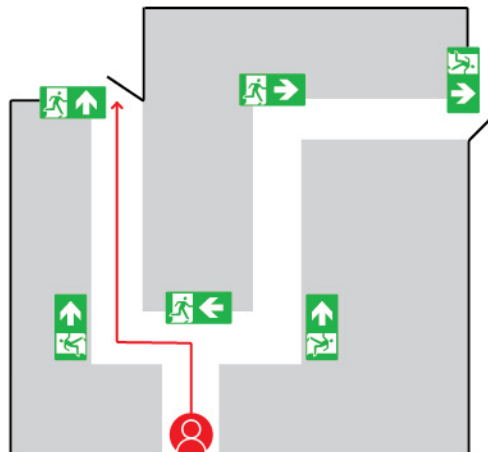
Maximum viewing distance  
For  
**Externally Signs**  
 $d (h \times 100)$

The dimensions of graphical symbol signs shall be tested in accordance with MS619-2-22:2005 and MS IEC 60598-1:2012. The MS 2687:2018 Clause 13 where Keluar Signs required locations shall be as follow:

1. At the point of entry to every protected passage, protected lobby or fire escape staircase leading to the final exit (exit route).
2. KELUAR/Pictorial sign indicating the location/direction of the exit route shall be placed not more than 30 m apart in public areas.
3. At the point of exit to every shop/compartment leading to public area except where the shop/compartment area is less than 30 m square or where the distance from the most remote point in the shop/compartment to the exit is less than 6 m.

*'Most people will try and leave a building the way the came in'*

The building owners or specifiers should design the signage which indicates the shortest escape route. As a result Exit Signs with Arrow signs such as left arrow, right arrow, straight/ forward arrow and double sided arrows are needed where necessary.



## RECOMMENDED SIGNAGE

Time is of the essence during evacuation, this means it is critical that all escape route signage can be quickly seen, understood and followed. Section 4.1 of EN1838:2013 details this point stating that 'Signs which are provided at all exits intended to be used in an emergency and along escape routes shall be illuminated to indicate unambiguously the route of escape to a point of safety'.



SK-16ST-M  
RUN MAN



SK-16ST-SA  
STRAIGHT ARROW



SK-16ST-LA  
LEFT ARROW



SK-16ST-DSA  
DOUBLE SIDED ARROWS



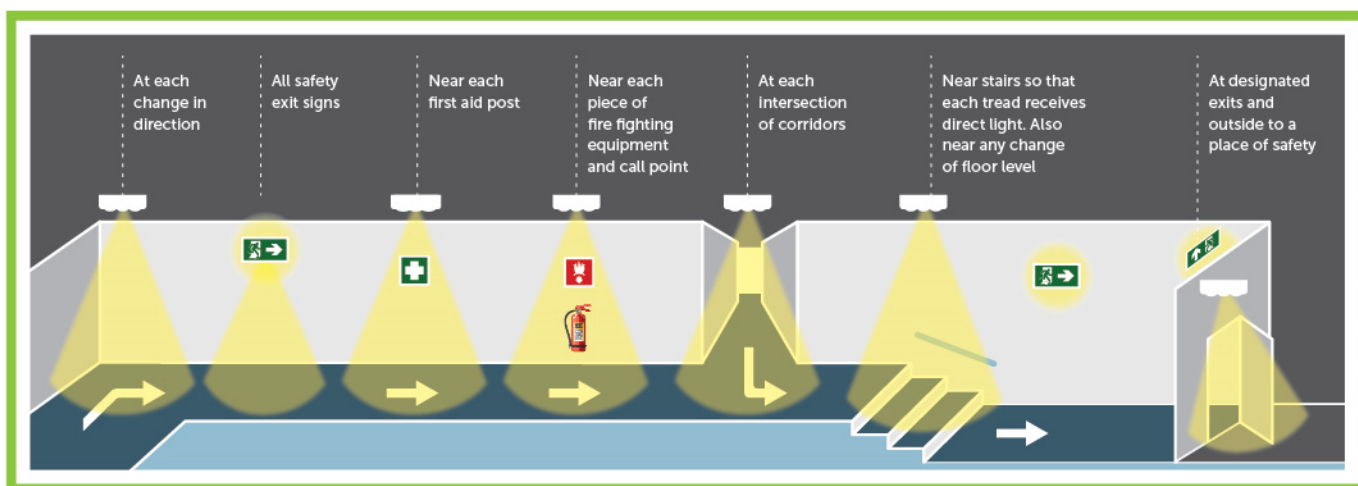
SK-16ST-RA  
RIGHT ARROW



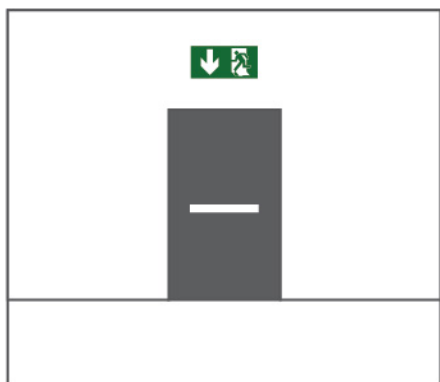
SK-16ST-DA  
DOUBLE ARROW

## SAFETY LIGHTING - POINTS OF EMPHASIS

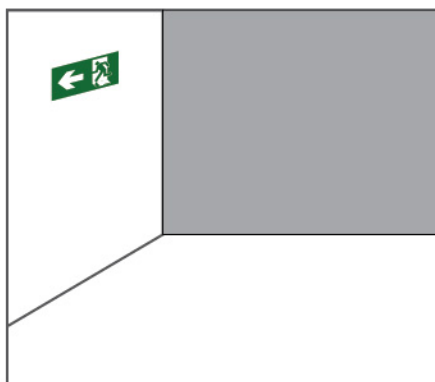
The following representation highlights key points of emphasis requiring a luminaire :



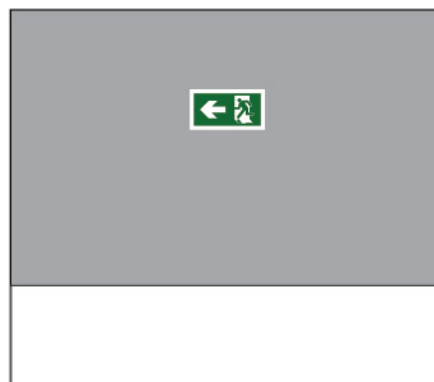
## POINT OF EMPHASIS - KELUAR SIGNS



At all exits to be used  
in the case of an emergency



At points that dictate  
a change in direction



Throughout the corridor

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