Tescom®

EMERGENCY LIGHTING | OPEN AREA LIGHTING | RISK AREA LIGHTING

ES300D

10-160kVA

Uninterruptible Lighting

EN50171 Standard

High Reliability

TOWER | 0.9 POWER FACTOR | SERVICE / TECH. SUPPORT | ECO FRIENDLY

TESCOM ES300D Series are static inverter systems used for emergency lighting such as open area, escape route and high risk task area. It provides flexibility in your applications with its product range up to 160kVA and multiple control mode applications allow lighting to be controlled in various ways. With over 40 years of experience and expertise in the field, TESCOM ES300D Emergency Lighting Systems offers all kinds of lighting applications as a reliable and all-inclusive system.

GENERAL SPECIFICATIONS

- DSP controlled modular structure
- 3 Level topology
- Full digital structure
- True sinewave
- DC short circuit protection
- Deep discharge protection
- Automatic battery test, remaining battery time indicator
- High charge current capacity
- Inverter design to suit high inrush lighting loads
- FAR controls
- Selectable output modes with external control (if external contactor fitted)
- External phase fail connection (if external contactor fitted)
- Selectable inverter or changeover mode
- Advanced LCD front panel
- Diagnostics for fault analysis
- RS232 and dry contacts
- Advanced communication for remote monitoring
- Manufactured according to EN50171
- 2 years warranty

ES300D series are static inverter systems specially designed for emergency lighting. It is produced in accordance with EN50171 / EN 1838 and reference standards.

Nowadays, personnel safety and management of emergencies are of vital importance in risky situations such as possible malfunctions, interruptions and disasters in businesses and living spaces.

For this reason, risky areas such as escape corridors, elevators, stairs, places where the ground level changes, and critical points such as fire extinguishers, generator room and parking lots should be illuminated in emergencies.

Emergency lightings are divided into the following types;

Secondary Lighting

Safety Lighting

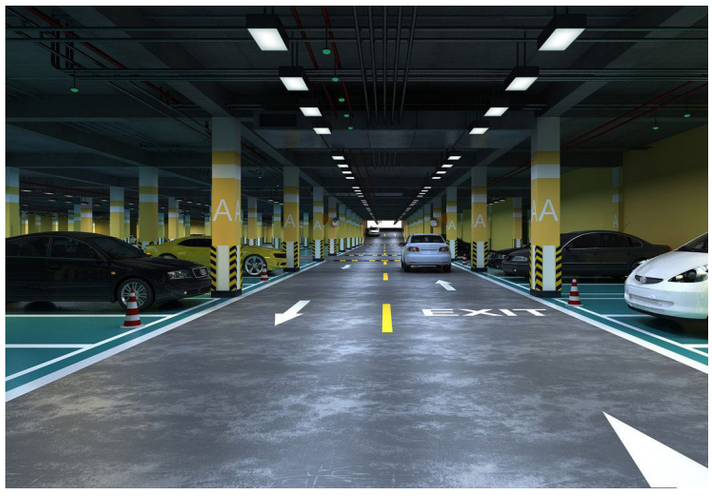
- Escape Route Lighting
- Open Area Lighting (Panic Prevention)
- High Risk Task Area Lighting

ES300D series, available in power options from 10 to 160 KVA, not only provides backup power capacity, but is a versatile and useful product with advanced control options.

It is offered with cost-effective solutions as a complete system for sensitive lighting applications.

Choosing and applying the right static inverter for your Emergency Lighting System depends on many important factors. An important part of this is issues such as installation and configuration. The diagram below has been created to help you understand your requirements.

First of all, the system should be designed correctly according to needs such as whether the lighting should remain active when the grid is normal, the interruption tolerance at the time of transfer, or the lighting to be turned on by external control.



QUICK GUIDE FOR REQUIREMENTS

DO THE LIGHTS NEED TO STAY ON FOR A 1 HOUR OR 3 HOUR DURATION ?

DO THE LIGHTS NEED TO STAY ON WHEN THE MAINS SUPPLY IS HEALTHY ?

YES

DO THE LIGHTS HAVE A MINIMUM CHANGEOVER TIME REQUIREMENT ‹0.5S ?

YES

ES300D IN INVERTER MODE

NO

ES300D IN CHANGEOVER MODE

SOME

MAINTAINED AND NON-MAINTAINED OPTION IS REQUIRED

DO THE LIGHTS NEED TO BE TURNED ON VIA EXTERNAL CONTROL ?

YES

ES300D MAINTAINED AND NON-MAINTAINED OUTPUT OPTION + CONTROL OPTION + CHANGEOVER MODE

CONTROL OPTION

CUSTOMER CONTROLLED OUTPUT
SUB-CIRCUIT MONITORING
PHASE FAILURE MONITORING

NO

ES300D MAINTAINED AND NON-MAINTAINED OUTPUT OPTION + CHANGEOVER MODE

NO

DO THE LIGHTS NEED TO BE TURNED ON VIA EXTERNAL CONTROL ?

YES

ES300D NON-MAINTAINED OUTPUT + CONTROL OPTION + CHANGEOVER MODE

CONTROL OPTION

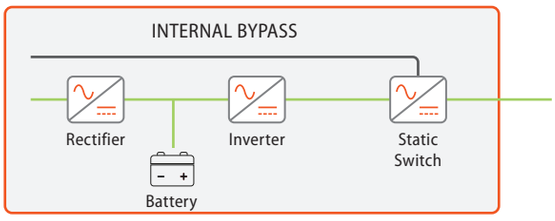
CUSTOMER CONTROLLED OUTPUT
SUB-CIRCUIT MONITORING
PHASE FAILURE MONITORING

NO

ES300D NON-MAINTAINED OUTPUT + CHANGEOVER MODE

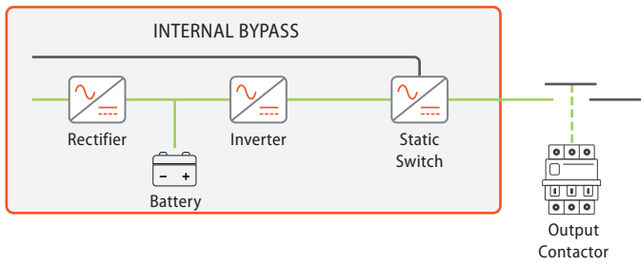
MAINTAINED OUTPUT

The static inverter supplies the lights during normal operation and continues to provide continuous power over the batteries for emergency lighting in case of any fault/ interruption in the grid. This application should be preferred in facilities open to the public.



NON-MAINTAINED OUTPUT

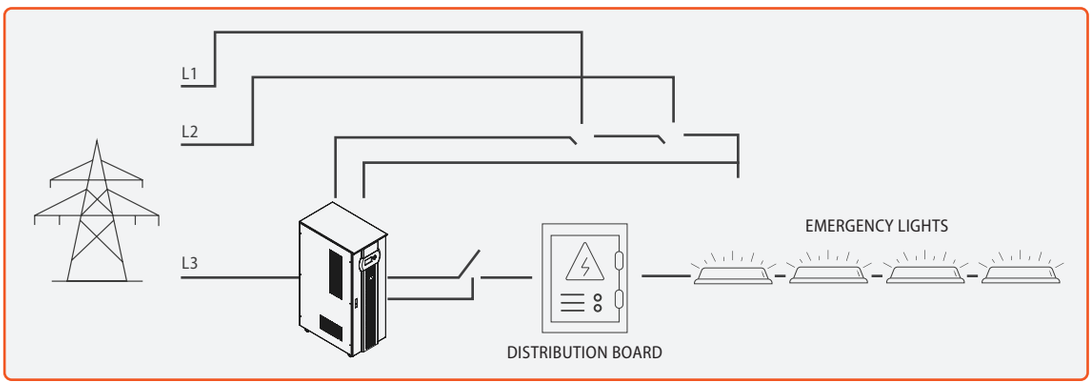
Static inverter output and emergency lights are off during normal operation. In case of a mains fault/outage, the inverter output is activated and the lights are supplied. If the same people use the facility always and if the personnels are not unfamiliar with the places, this application can be appropriate.



PHASE FAILURE MONITORING

During normal operation, emergency lighting is in the mode of non-continuous operation (Non-Maintaned Output). Luminaires are only active in case of interruption.

With phase failure monitoring; Mains interruption or any possible fault condition is monitored and emergency luminaires is supplied from the inverter.

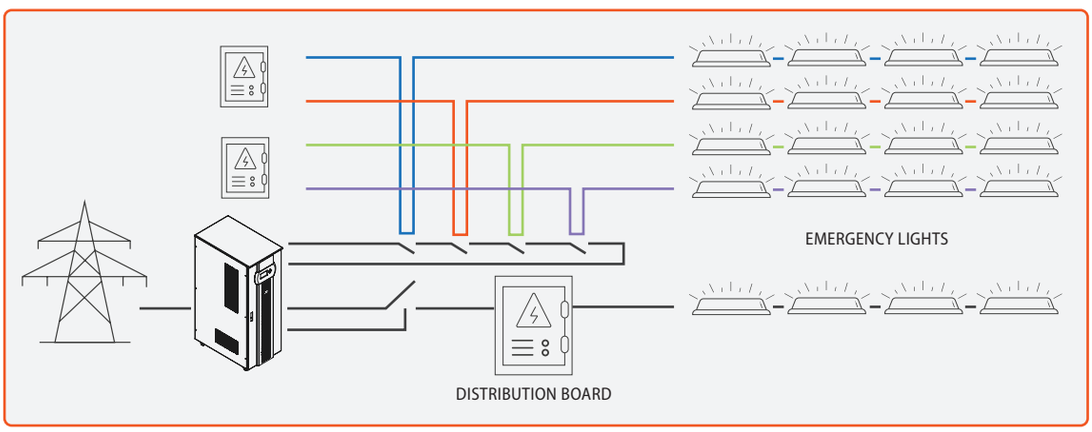


SUB-CURCUIT MONITORING

During normal operation, emergency lighting is in non-continuous operation.

Emergency lighting is activated in case of a mains interruption.

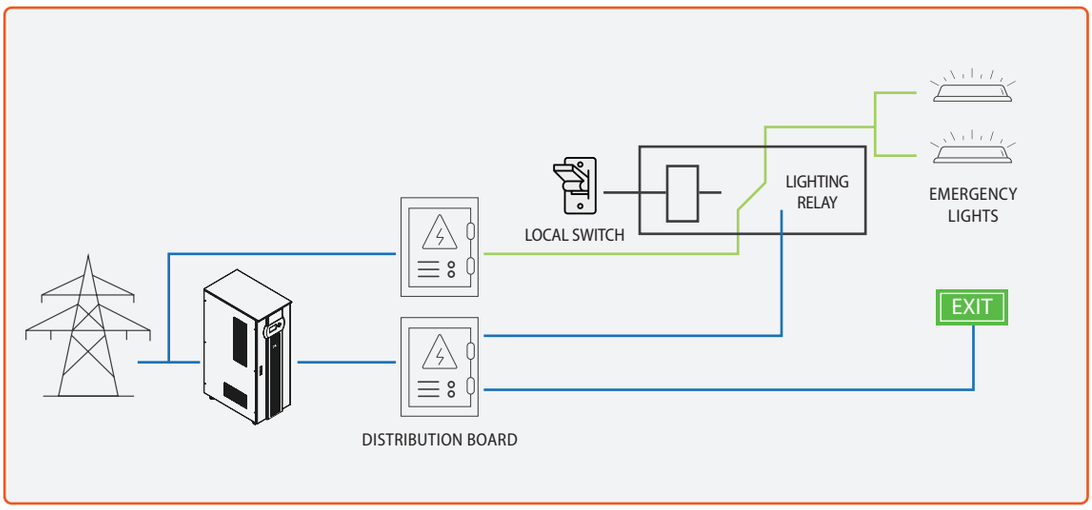
Emergency lighting is activated when any sub-circuit breaker or non-emergency lighting in the system goes off.



CONTROLLED OUTPUT

During normal operation, the emergency lights are in continuous operation mode. Emergency lighting is still activated during a mains interruption.

If desired, some lighting circuits can be left in maintaned output mode with the help of a switch by the user. In this way, if the switch is turned off by the user, emergency lighting is activated in case of mains failure. If the switch is left on position, the relevant loads will remain in the non-continious (non-maintaned output) operation mode.



TECHNICAL SPECIFICATIONS

MODEL	ES310D	ES320D	ED330D	ES340D	ES360D	ES380D	ES3100D	ES3120D	ES3160D
Power (kVA)	10/9	20/18	30/27	40/36	60/54	80/72	100/90	120/108	160/144
INPUT									
Nominal voltage	380/400/415 VAC (3P + N + PE)								
Voltage range	± 15%								
Power factor (@100% load)	≥ 0.99								
THDI (*)	< 5%								
Frequency	50Hz ±5%								
OUTPUT									
Nominal voltage	230 / 400 Vac (3Ph + N + PE)								
AC voltage regulation	±2%								
Frequency range	±1%								
Power factor	0.9								
Crest factor	3:1								
Harmonic distortion	< 3% (Linear load)								
Transfer time	< 0.5secs								
Wave form	Sinewave								
Load circuits	1								
Overload	120% continuous, 120 - 150% for 10mins, 150 - 180% for 1mins								
Mode operation	Changeover or Inverter selectable								
Maintained / Non-Maintained	Maintained (standard) / Non-Maintained (optional)								
BATTERY									
Battery type	VRLA AGM / Nickel Cadmium / Planté								
Internal / External	1 or 3 hour external								
Battery recovery time	80% charge in 12 hours								
Deep discharge protection	Included								
LIGHTING CONTROL INTERFACE									
External mains fail test Connection	Included								
Non-Maintained mode Connection**	Included								
FAR connection **	Included								
External phase fail Connection **	Included								
24 Vdc Supply for External Contactor	Included								
KNX / DALI / NODE Interface	Optional								
Mains fail test button	Included								
Volt free contacts	9								
GENERAL									
Standards	EN 50171								
Operating temperature	0°C - 40°C / ‹1000m above sea level								
Operating humidity	10 - 90% non-condensing								
Acoustic noise	< 62dB @ 1m				< 64dB @ 1m		< 68dB @ 1m		
Protection degree	IP41								
Dimensions (mm) HxWxD (Excluding batteries)	1040x400x815		1440x515x855						1900x880x775
Net weight (kgs) (Excluding Batteries)	91	100	173	197	209	220	232	265	482
* Depends on input output voltage conditions and power									
**Only applicable if Non-Maintained Contactor Option fitted									