

FL 2820 TFT



Multifunctional dynamic pictogram luminaire





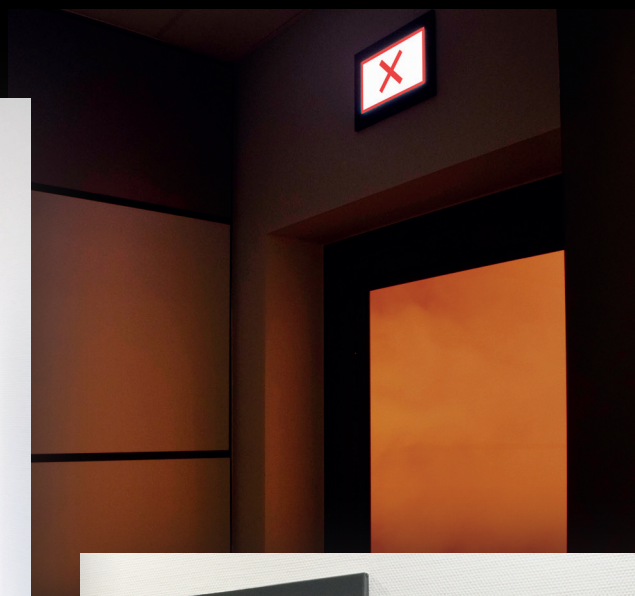
FL 2820 TFT

Dynamic, standard-compliant and with customisable pictograms

These features are just a few of the highlights of the new generation of luminaires. With its TFT display, the FL 2820 TFT offers the possibility of displaying a wide variety of pictograms, images or even animations. Accordingly, dynamic escape routing with fully standard-compliant pictograms is now possible for the first time ever.

Flexible pictograms – even in accordance with customer requirements

Thanks to the TFT technology used, a wide variety of pictograms can be displayed. The common emergency escape, first aid and fire safety signs can be selected from a library or your own pictogram specifications can be implemented using free software. For example, the luminaires can indicate an alternative escape route or support the primary escape route with direction signs in an emergency and signpost meeting rooms. Subsequent adjustments to the pictograms arising from changes in standards or usage are possible at any time inexpensively and without having to change them mechanically.



Monitoring

As with all INOTEC luminaires, the FL 2820 monitors all functions as standard. For example, in addition to the LED backlight, this luminaire also monitors the image output of the TFT display. A report is sent to the FUSION system immediately if the pictogram and specification are inconsistent. This permanent image monitoring – developed and patented by INOTEC – is unique and represents a novelty in safety lighting.



The following failures are detected by the luminaire and reported to the FUSION system:



Backlight failure

The LEDs used in INOTEC emergency exit luminaires are always monitored to ensure the luminance and homogeneity required by the standards. This is also achieved by monitoring the TFT backlight on the FL 2820 TFT.



Image monitoring sensor failure

If the sensor for image monitoring fails, this is detected by the lamp. Thus a maximum of safety is achieved.



Communication failures

The FL 2820 TFT communicates bidirectionally with the CPS FUSION central battery system. As soon as the FUSION system's control unit detects a communication failure, a corresponding message is issued.



Incorrect or faulty pictogram

An incorrect or faulty pictogram can have fatal consequences in an emergency. This is why the luminaire signals it with its patented image monitoring system. If the luminaire fails to confirm the pictogram specified by the FUSION central battery system, an incorrect pictogram is reported. If the pictogram is incomplete due to a display failure, then the fault is also reported.

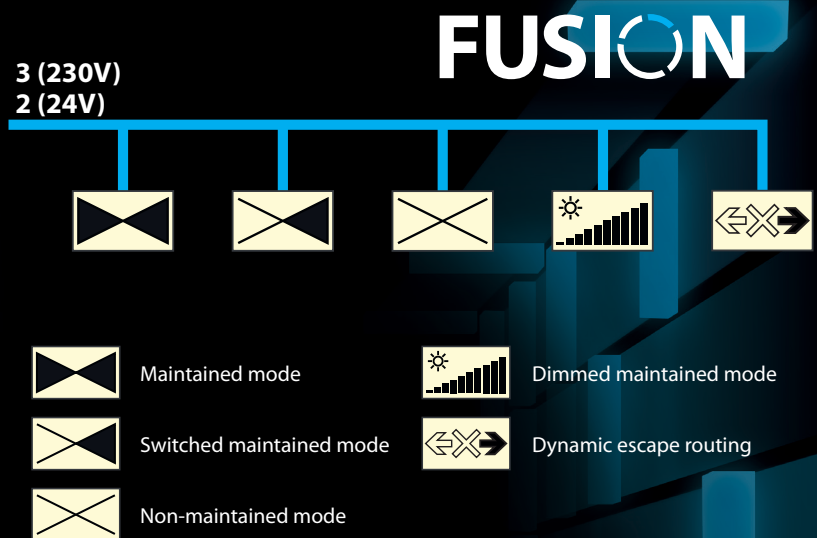


SD card failure

Custom pictograms are stored on an SD card in the luminaire. If an failure is detected, an failure message is sent to the FUSION system.

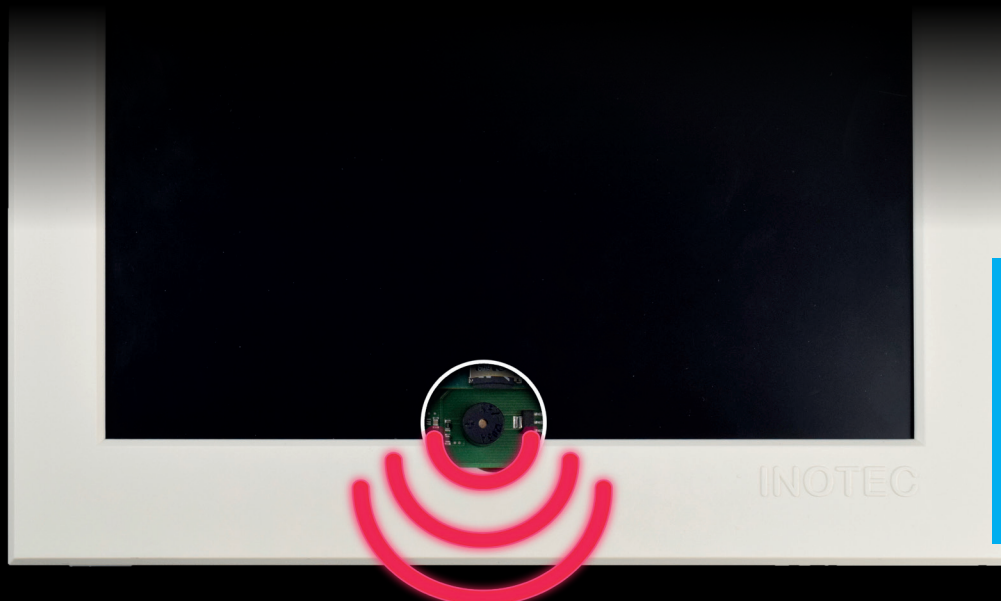
Bidirectional communication – without additional bus line

Connected to the CPS FUSION system, the FL 2820 TFT communicates bi-directionally with the central battery system. If a change of direction of the arrow or the blocking of a smoky escape route by the central battery system is specified, the luminaire confirms the new pictogram. The re-routing is thus checked, which ensures maximum safety. Thanks to FUSION technology, communication takes place via the 230V or 24V final circuit. An additional bus line is not required.



Audible signalling device

If a fire or power failure is detected in a building, an audible signalling device in the luminaire can be enabled by programming a switching assignment. This increases the attention of people in the building. In particular, visually impaired people are made aware of the incident.



Video



www.inotec-licht.de/FL2820/Akustik

Flashing and blocking with maximum attention

Only the directional arrow or red cross flashes when a pictogram with flashing function is needed; the emergency escape or first aid sign (or pictogram's background) remains switched on. The flashing function raises attention significantly, the pictogram displayed remains visible at all times. Similar to a blocked lane on a motorway or in a tunnel, the sign for blocking an escape route visually is displayed without an emergency escape or first aid sign by default. The generally known red cross is also located above the blocked area.



Animations – one luminaire for multiple pictograms

In addition to the standard safety sign, other pictograms, e.g. for wheelchair users, are more and more frequently required. Instead of using special solutions with two-part pictograms, which reduce the viewing distance, or even using two luminaires, the FL2820 TFT offers an elegant solution with an animation. The required pictograms are displayed one after the other. The selection of the pictograms and the desired display duration can be configured in the INOTEC Picto+ software. This means that it is also possible to change or sequence images from standardised pictograms and your own texts. As a result, for example, the reason for an evacuation (conceivable in the case of amok or terror) can be displayed as text alternating with a pictogram.

Create your own image content easily with PICTO⁺



If you need to display your own content with the FL 2820 TFT, it can be configured using the INOTEC PICTO⁺ software and assigned to one of the 128 possible image storage locations. A single image or an image sequence consisting of up to eight images can be stored in one image storage location. This allows the implementation of pictogram sequences with a variety of emergency escape or first aid signs (wheelchair user left/emergency exit right), for example.

Once the required luminaire configuration has been completed, it can be saved as a project and stored on the luminaire via the network or an SD card. By programming the FUSION emergency lighting system, the desired images/pictograms can now be displayed.



Create individual image content – with your logo, for example

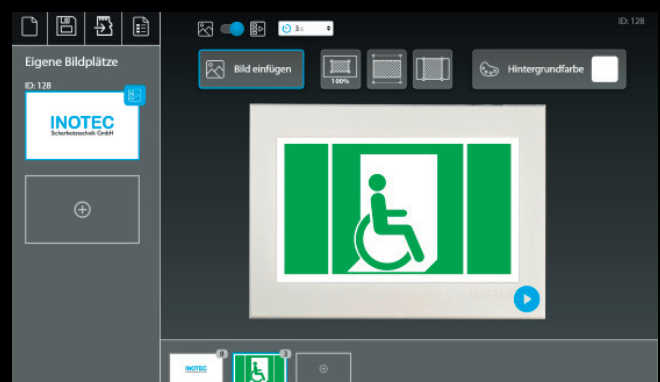


Image changes between individual images and/or standard pictograms are also possible (up to eight images)

Perfect pictograms – from every angle

Until now, the implementation of dynamic pictograms always meant reductions in recognisability. Thanks to the TFT display used, these deficits no longer exist. The pictograms have a luminance of 800cd/m². Compared to conventional displays, the display of the FL 2820 TFT remains clearly visible even at a very sharp viewing angle.



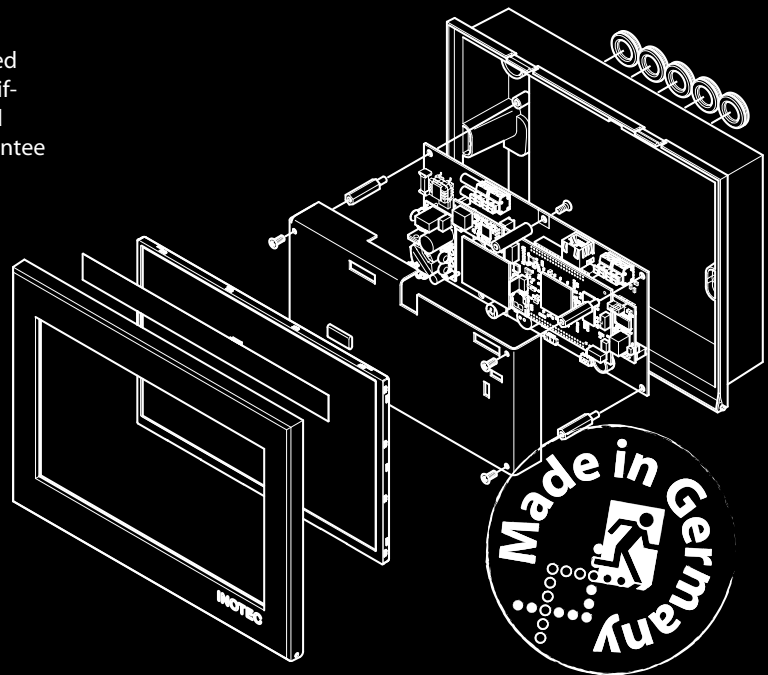
Full compliance with standards

In addition to excellent recognisability, the TFT display can show all pictograms in full compliance with standards. This means that pictograms with arrows pointing in the opposite direction to the escaping man on the sign are now a thing of the past. In addition, the pictograms are not affected by blocking symbols which are placed in front of them and which become visible through edge irradiation and have no gaps or light edges of the kind which occur with many commercially available luminaires.



INOTEC quality – for long service life

As usual, the components used by INOTEC are designed for a long service life. The electronics (developed specifically for this range of luminaires) and the display used meet the high industry standard, enabling us to guarantee a minimum service life of 50,000 hours.



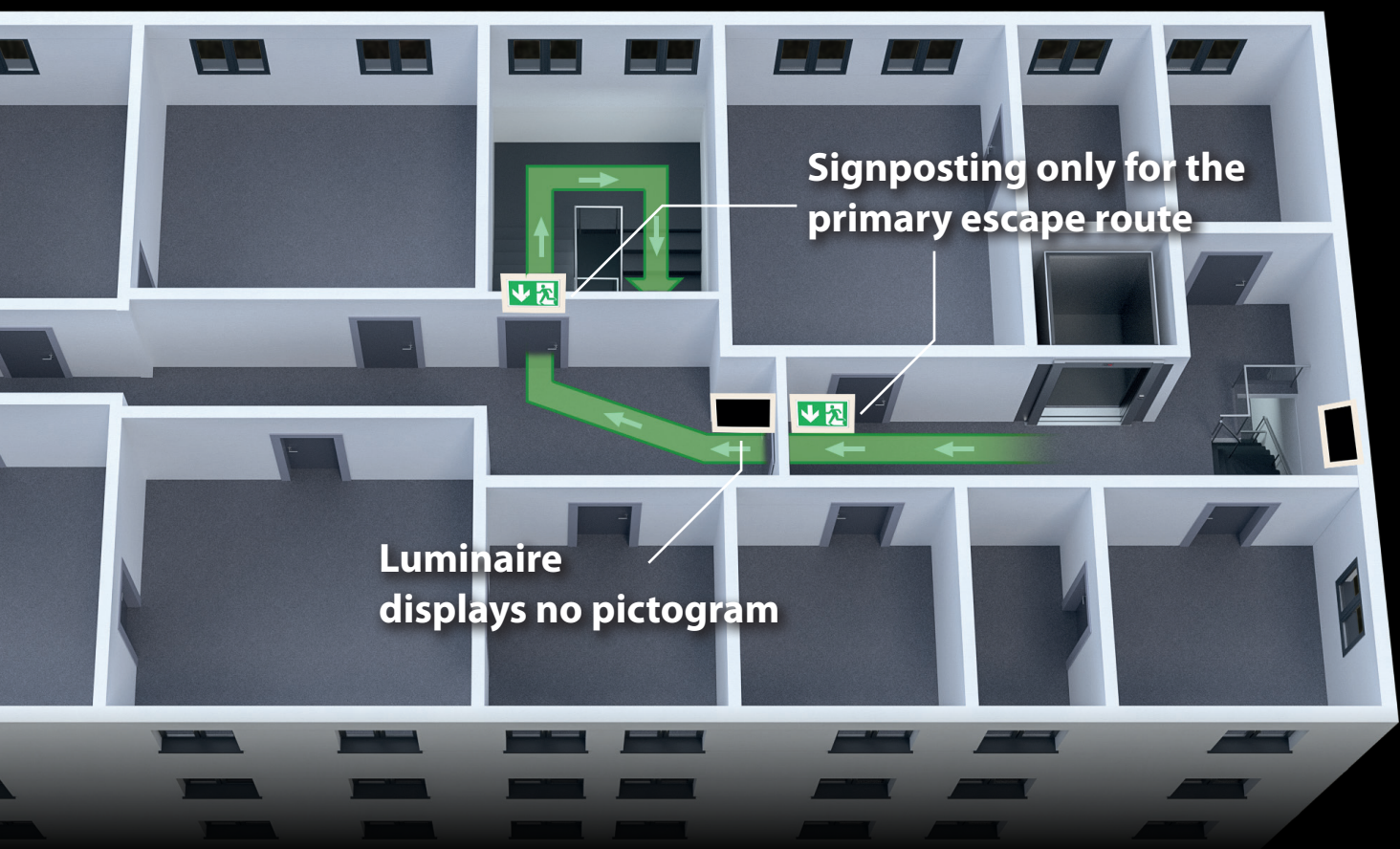
Special colours – customisable for your project

Thanks to our own production facility in Ense, Germany, we can respond to customer requests at any time. This allows the FL 2820 TFT to be colour-matched to the requirements of the project. Due to the individual housing colour, the luminaires can be perfectly integrated into a building project, as required e.g. for conservation reasons. Thanks to the black TFT display, a luminaire with a deep black housing (RAL 9005) is almost invisible when switched off - except when it matters.



Application: Signposting for an alternative (second) escape route

In many cases, it is necessary to mark a second escape route that should not be marked as such initially. The luminaire is hugely advantageous here because the required pictograms only become visible when activated via the FUSION technology. This selling point is absolutely unique, as at least one additional switched-off pictogram is visible on every other luminaire available on the market, which can confuse the people escaping. The TFT display is black when no pictogram is active on the FL 2820 TFT, meaning any confusion is precluded.



The sample project involves a four-storey museum building. The access route runs through the central staircase in the middle of the building. The escape route from all parts of the building normally leads outside via the central staircase. According to the evacuation concept for the building, the secondary escape route via the open staircase on the building's right-hand side shall only be marked if the main staircase is no longer usable due to a potential build-up of smoke.

Fig. 1 shows how the escape route is normally marked. All escape signage points in the direction of the central staircase. All luminaires intended to indicate the use of the secondary escape route are switched off. There is no marking visible on this route to begin with.

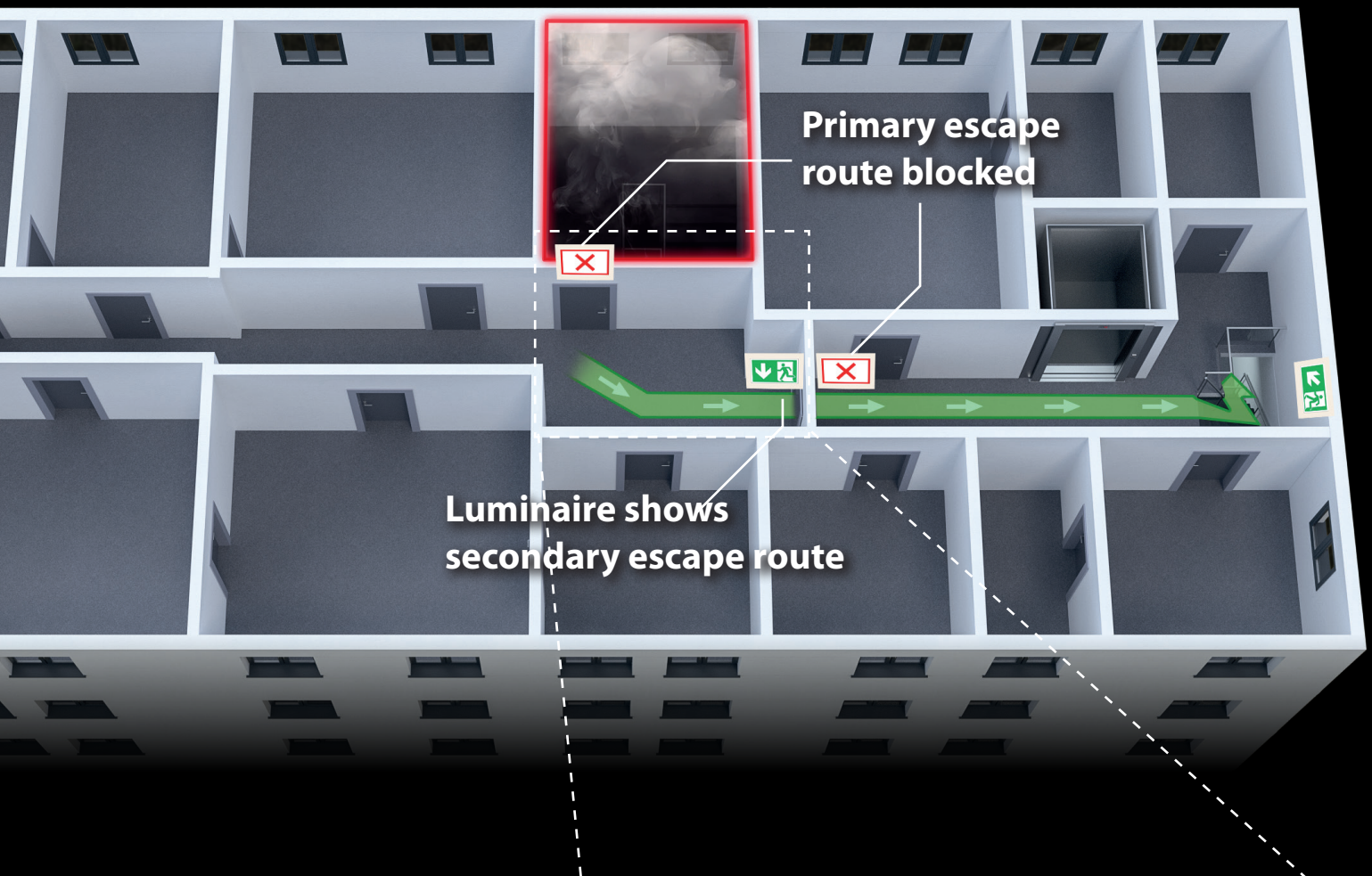


Fig. 2 shows a build-up of smoke in the main staircase. Both the escape door to the main staircase and the escape door from the right-hand side of the building toward the main staircase now display a red cross to indicate they are no longer in use, thus blocking the escape route via the main staircase visually. The previously invisible escape signage that leads toward the secondary staircase now becomes active. Unambiguous escape signage indicates which escape route is safe to use depending on the situation – there is no confusion.

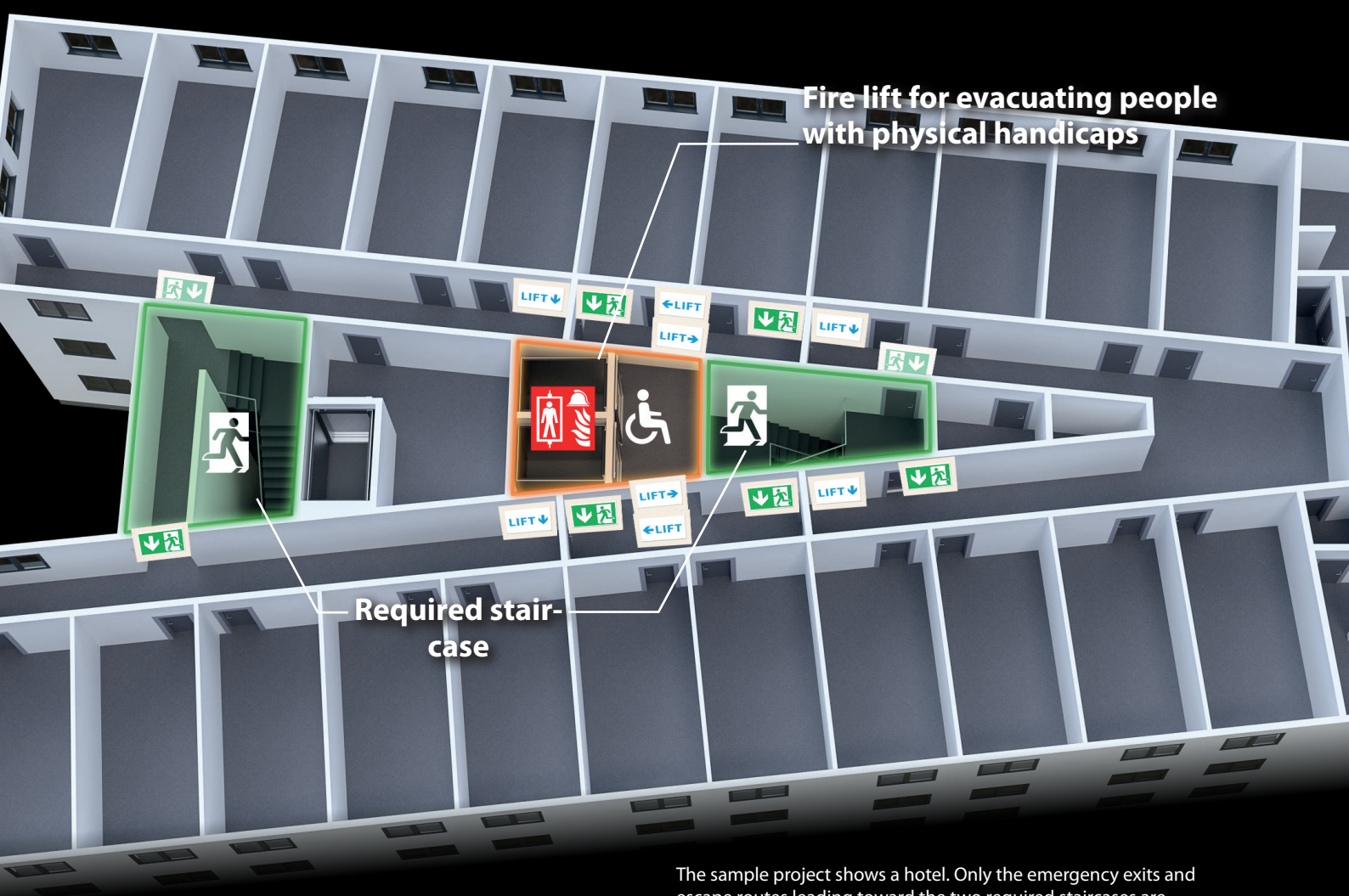


Application:

Emergency exits and escape routes for people with physical handicaps

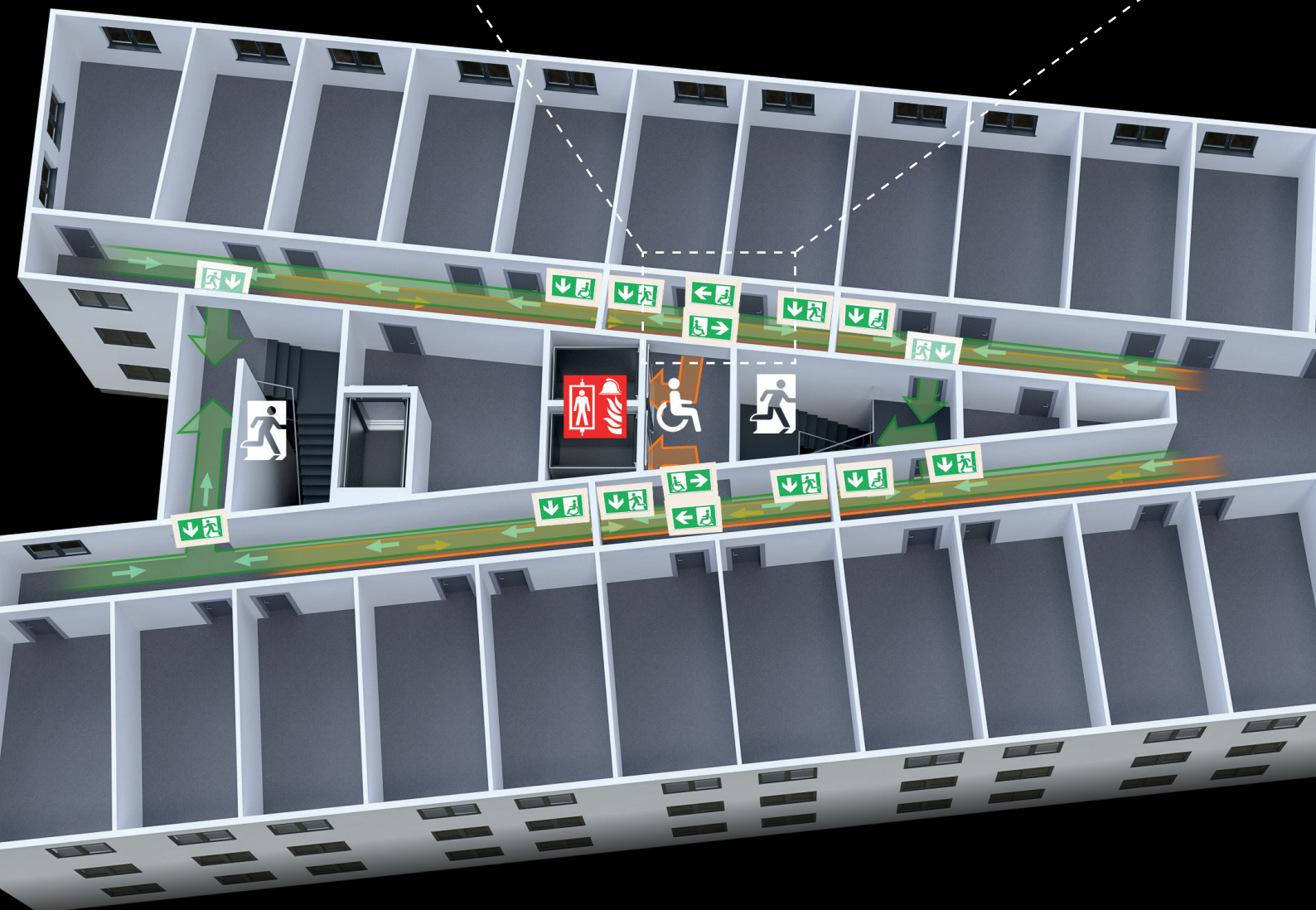
More and more attention is being given to the needs of people with physical handicaps via the legal requirements for new developments and conversions.

To enable these people, to leave buildings safely, it is important to specifically mark accessible emergency exits and escape routes, as well as routes to special facilities like collection points or evacuation lifts. A flashing function in addition to the standard compliant display of the required emergency exit signs can increase attention to the signage if the general power supply fails.



The sample project shows a hotel. Only the emergency exits and escape routes leading toward the two required staircases are normally marked. The two lifts are signposted using TFT luminaires. They are positioned at the fire doors in the corridors and at the lift entrances, meaning they are visible to hotel guests throughout the floor.

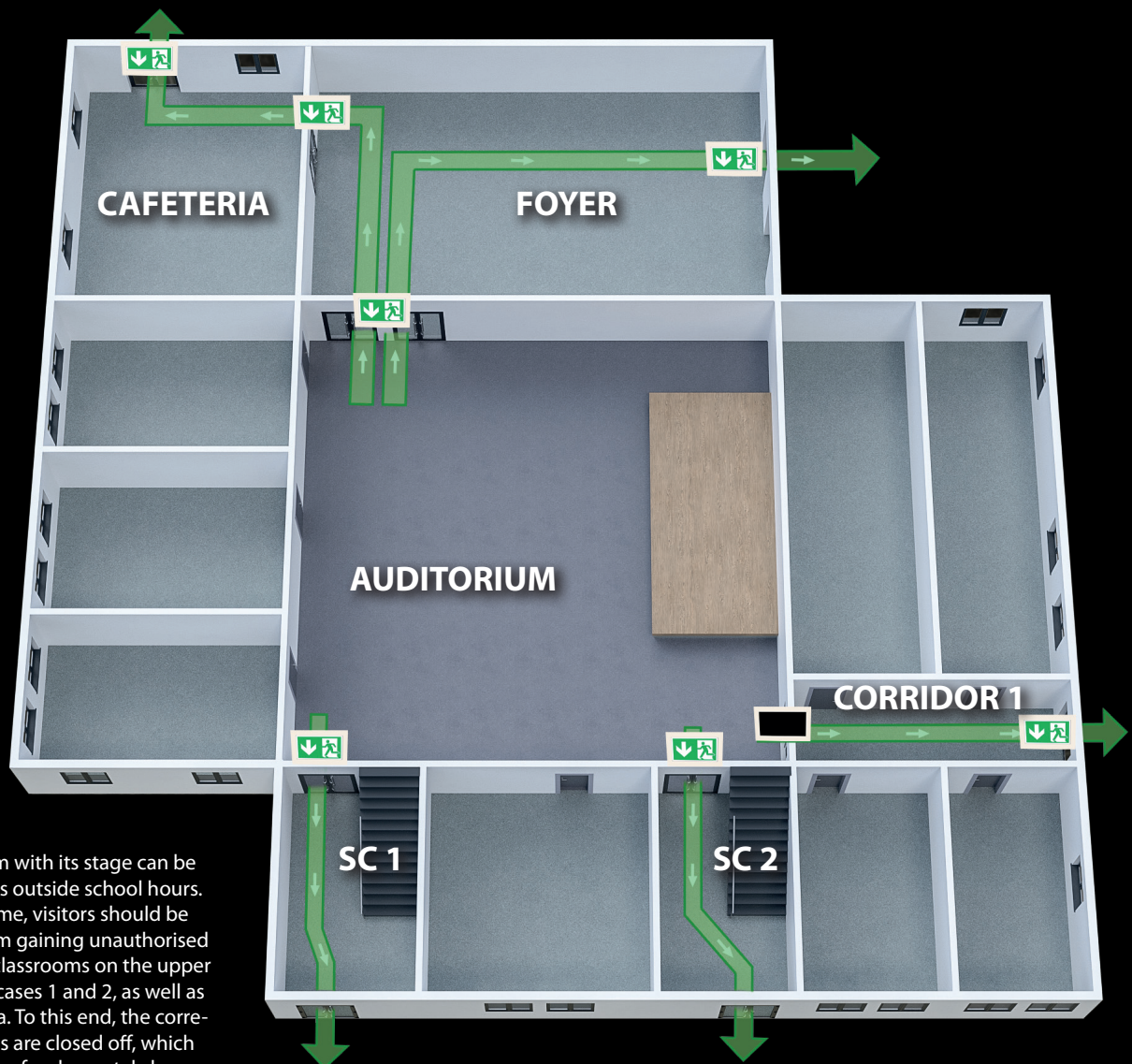
The escape routes in this building are not the same for people with physical handicaps as for those without. This means that it is especially important to clearly mark the escape routes for each user group. In the event of an evacuation due to fire, the lift signs are replaced by escape route marking for people with physical handicaps. In our example, this meets two requirements simultaneously. One is the need to clearly mark the emergency exit and escape route for people with physical handicaps. The second is that by eliminating the signage on the lift, people without handicaps will not be directed to the lifts.



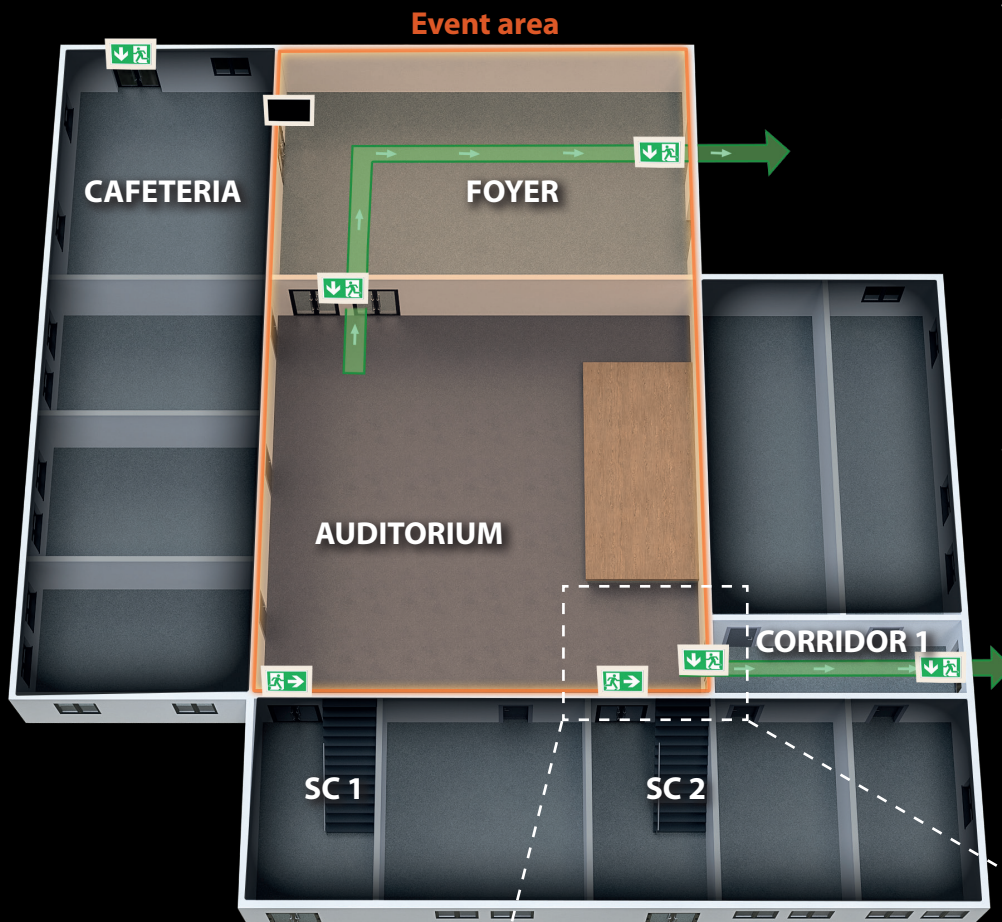
Application: Change of use in a building (e.g. school with auditorium)

In many buildings, temporary changes in use can result in a different escape route situation.

The sample project shows the part of a school on the ground floor. The auditorium is located centrally and used as a recreation area and for access to classrooms and staircases during school hours. Staircases 1 and 2 are marked as escape routes during school hours and lead outside. Other escape routes lead outside via the cafeteria and foyer.



The auditorium with its stage can be used for events outside school hours. At the same time, visitors should be prevented from gaining unauthorised access to the classrooms on the upper floors via staircases 1 and 2, as well as to the cafeteria. To this end, the corresponding areas are closed off, which means there is a fundamental change in the escape route scenario.



The necessary adaptation of the escape route marking can be easily done by the TFT luminaire. This means that staircases 1 and 2 as well as access to the cafeteria can be visually blocked from a central location or made unrecognisable by switching off the luminaires. The path through corridor 1, which is not intended for normal operation, is displayed as an additional escape route. Alternatively, the luminaires above the entrances to staircases 1 and 2 could also display the alternative escape direction to corridor 1 instead of the red cross. This is freely programmable and does not require any additional planning, ordering or installation work.

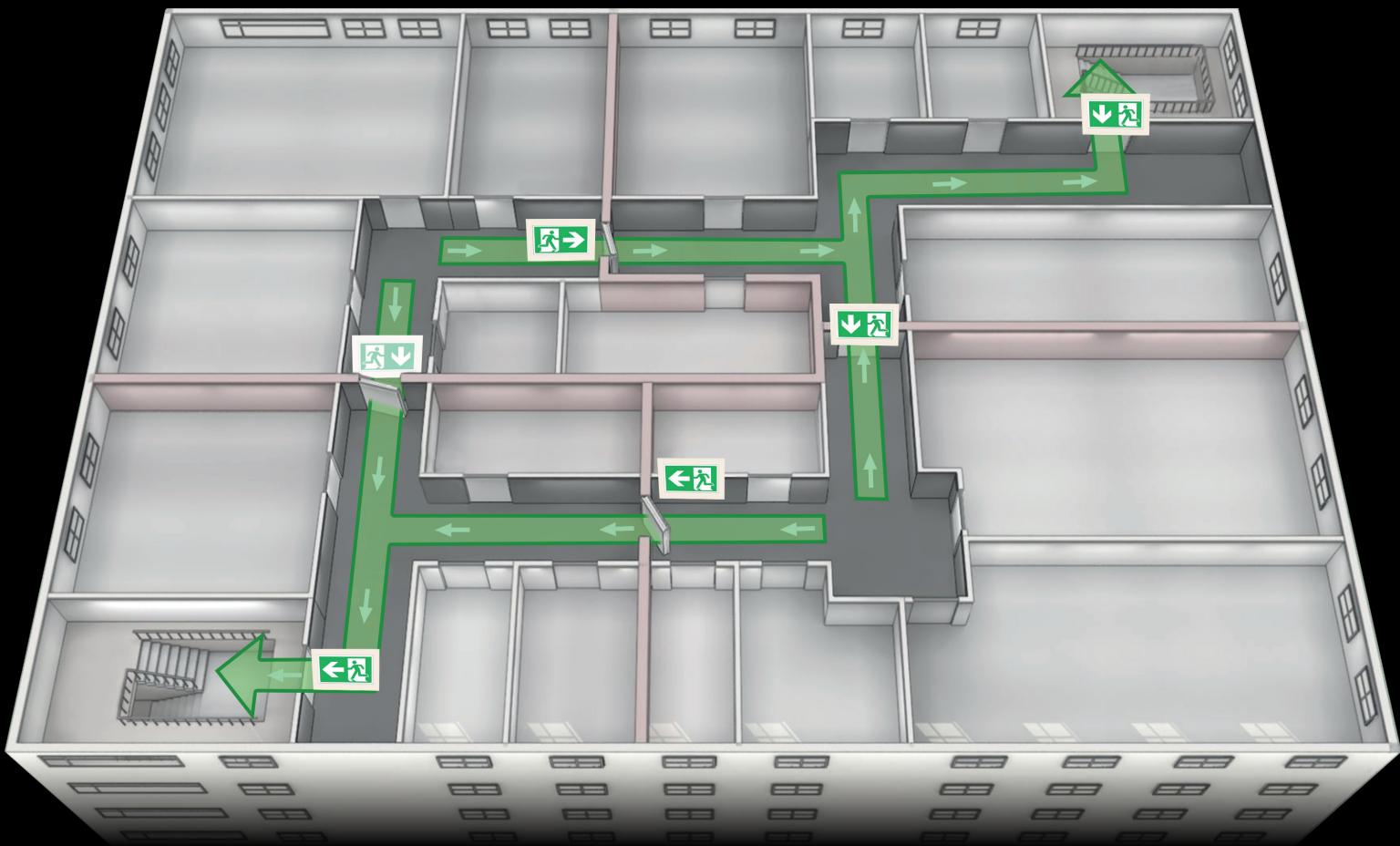
In this example, only four dynamic TFT luminaires are required instead of static emergency escape or first aid signs – a disregardable additional expense with enormous benefits.



Application:

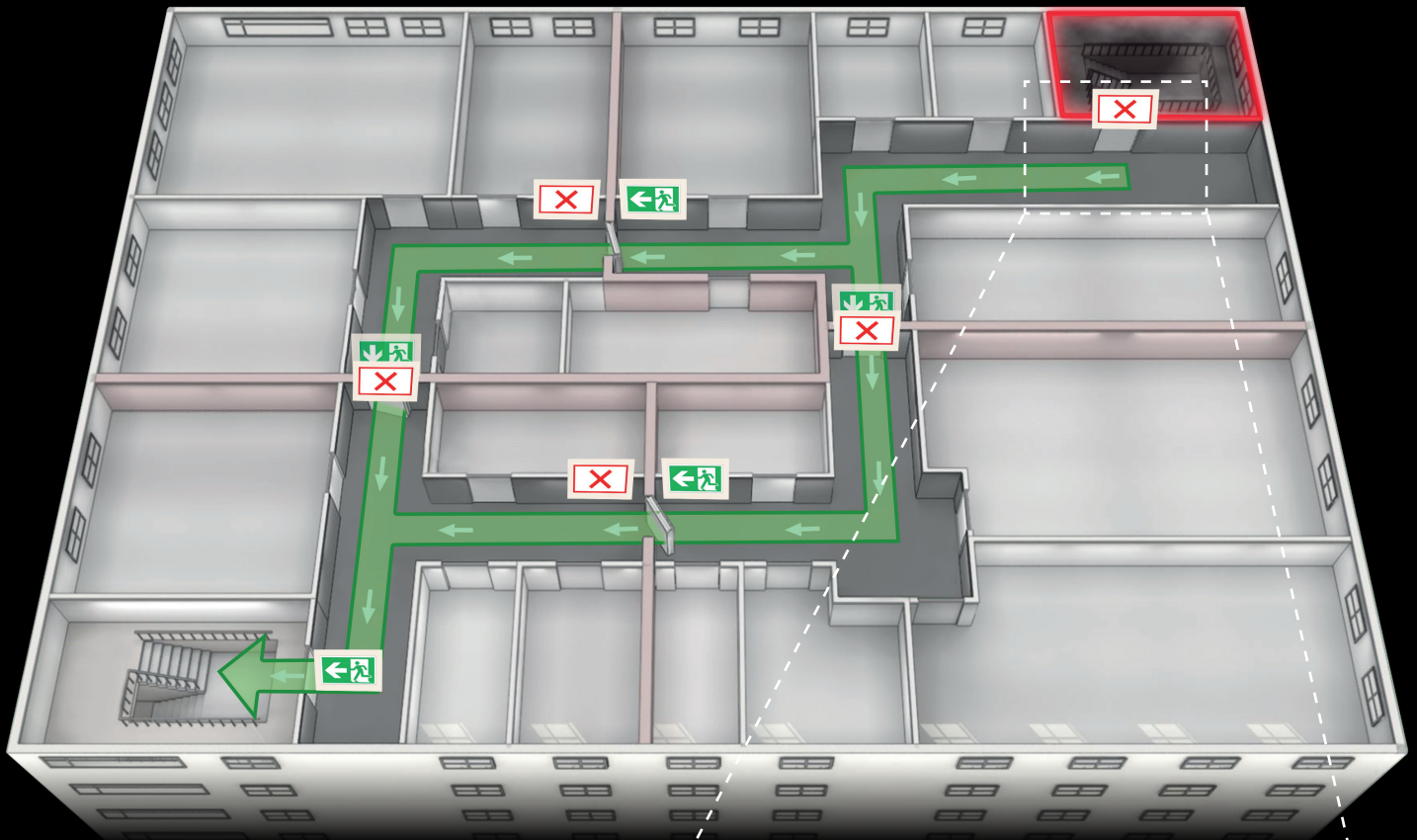
Dynamic escape routing (also as a compensatory measure)

The FL 2820 TFT provides the option of a dynamic use of escape signs. Connected to the CPS FUSION or the CLS FUSION emergency lighting system, which are linked to the fire alarm system installed in the building, the luminaires can indicate the safe escape route with a standard-compliant pictogram or block smoked-filled areas.



The sample shows an office building divided into four fire (or smoke) compartments on the various floors. Staircases are located at the top right and bottom left of the building, which should enable evacuation of the floor. The shortest escape route from each compartment is signposted.

If the escape staircase or the escape route is blocked by smoke in the following section, a rerouting is made to the second staircase. All emergency escape or first aid sign luminaires that previously marked the escape route leading toward the affected staircase now display a red cross to indicate it is no longer in use, thus blocking the route leading toward the fire. As a result, escaping persons are guided into the right direction by a safe escape route out of the building.



A blocking sign warns the escaping person about the danger. In combination with escape signs, which indicate an alternative escape route, dangerous situations can be avoided.

Application: Room signage

Thanks to its outstanding flexibility, the FL 2820 TFT can be used not only for static or dynamic escape route marking but also for room signage.

The application example shows how access control can be implemented with the TFT luminaire in rooms used for medical purposes, e.g. in an outpatient clinic or radiology department.



You can also sign-post restrooms, meeting-rooms, fire-fighting equipment and the like. There are no limitations to the TFT luminaire.

No matter which application you choose, the luminaires put into operation are always used as unambiguous escape signage in the event of a power failure or fire.

Convince yourself ...

... in the CUBE – Forum for Evacuation

The CUBE building in Ense simulates evacuation strategies realistically and serves as a platform for discussion about evacuating buildings more effectively. It also provides a venue for cross-sector information sharing. In addition, the CUBE has exhibition rooms showing the INOTEC products in their various applications.

A large number of FL 2820 TFTs are installed in the CUBE building, demonstrating the advantages of dynamic escape routing and other possible applications.

We warmly invite you to visit us in Ense.
Let's talk!



... in our regional distribution centres

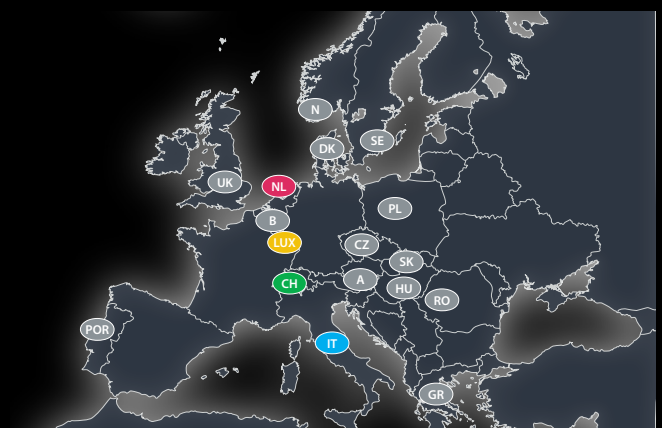
As an alternative to our CUBE building in Ense, you can also see our products at the showrooms of our regional distribution centres, where the sales representative responsible for your region is your personal contact and supported by office staff from the commercial and technical departments.

Distribution Centre North is situated just outside the city of Hamburg in the district town of Pinneberg, Distribution Centre East is situated in the 'Potsdam Süd' industrial estate within easy reach of the A115 motorway and Berlin, and Distribution Centre South is based in the district town of Nördlingen. You can find your contact quickly and easily using the postcode search tool at <https://www.inotec-licht.de/en/kontakt/ansprechpartner/>.



... at our international partners

Independent agencies and trading partners represent INOTEC in Europe and the Middle East. Our central export department based in Ense will be pleased to put you in touch with the right contact.





Multifunctional dynamic TFT exit sign luminaire made of UV- and glow wire resistant polycarbonate. For indication of the safe escape route in variable directions and blocking of affected areas depending on the spread of smoke from a fire as well as display of various safety signs or customer-specific pictograms. With the TFT used, including backlight and image content monitoring, the pictograms are displayed in accordance with standards and can be easily exchanged.

Technical data

Viewing distance:	20 m	Nominal current DC:	40 mA
Material:	Polycarbonate	Apparent power:	15,8 VA
Illuminant:	TFT	Effective power:	9,9 W
Nominal voltage AC:	230V ±10% 50/60 Hz	Protection class:	II
Nominal voltage DC:	176 - 264 V	Input terminals:	2.5mm ² feed through wiring
Nominal current AC:	69 mA	Temperature ta:	-15...+40 °C

Available colours Add colour code to the article no. e.g. 800 014 **LXX**

Special colour: **L99**

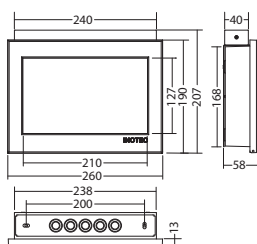
Articles

FL 2820 D TFT FDC 230V

Art. no. 811 184

Ceiling mounting

Protection category: IP40

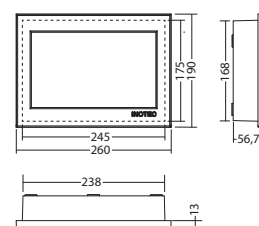


FL 2820 TFT FDC 230V

Art. no. 811 180

Recessed- and wall mounting

Protection category: IP40



CPS FUSION modular central battery system for the supply of dynamic and static emergency escape or first aid signs and safety luminaires, as well as for ground-level electrically-operated guidance markings in accordance with EN 50171 and EN 62034.

The CPS FUSION range covers various power ratings/housing requirements and supports the mixed operation of luminaires in maintained and non-maintained mode, switched maintained light, as well as dynamically controllable luminaires (including dimming) within one circuit without additional data lines.



System features

- ▶ Modular system design, various cabinet sizes, battery racks or battery cabinets
- ▶ Up to 128 circuits (64 in the main system/64 via substations) with 20 addresses each can be supplied
- ▶ Low service costs thanks to central monitoring of the entire safety lighting system and all connected luminaires
- ▶ Automatic or manually triggered function test device with logbook for recording status and failure messages
- ▶ Insulation test device
- ▶ Disconnect terminals for simple insulation measurement of luminaire circuits
- ▶ Sealed OGi block battery with design life > ten years
- ▶ Electrically isolated internal and external bus system
- ▶ Separate monitoring and switching devices
- ▶ Mixed operation of luminaires in continuous and standby mode, switched continuous light, as well as dynamically controllable luminaires (including dimming)



Multifunctional dynamic TFT exit sign luminaire made of UV- and glow wire resistant polycarbonate. For indication of the safe escape route in variable directions and blocking of affected areas depending on the spread of smoke from a fire as well as display of various safety signs or customer-specific pictograms. With the TFT used, including backlight and image content monitoring, the pictograms are displayed in accordance with standards and can be easily exchanged.

Technical data

Viewing distance:	20 m	Nominal current DC:	410 mA
Material:	Polycarbonate	Protection class:	III
Illuminant:	TFT	Input terminals:	2.5mm ² feed through wiring
Nominal voltage DC:	24 V ±20 %	Temperature ta:	-15...+40 °C

Available colours Add colour code to the article no. e.g. 800 014 **LXX**

Special colour: **L99**

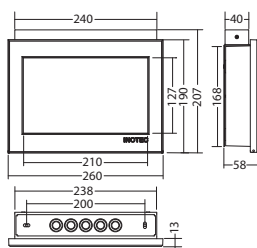
Articles**FL 2820 D TFT IDC 24V**

Art. no. 811 185

Ceiling mounting



Protection category: IP40

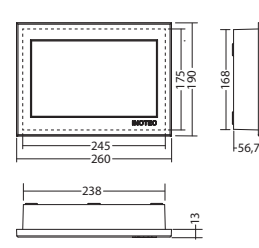
**FL 2820 TFT IDC 24V**

Art. no. 811 181

Recessed- and wall mounting



Protection category: IP40



Fully-monitored CLS FUSION emergency lighting system for connecting dynamic and static emergency escape or first aid signs and safety luminaires with individual luminaire monitoring in accordance with EN 50171 and EN 62034. The decentralised CLS FUSION emergency lighting system is optimised for use in a fire compartment. This means that one CLS FUSION can be used per fire compartment, which eliminates the need for costly and time-consuming cabling for function preservation.

- ▶ 24V emergency lighting system with automatic function monitoring and connected luminaires without additional data line. For supplying 24V INOTEC LED luminaires
- ▶ Luminaires can be individually programmed, addressed and dimmed via the control unit
- ▶ Integrated logbook for recording all data over a period > two years
- ▶ 3.5" TFT controller with modern and intuitive touch operation, as well as integrated USB and network connection
- ▶ Control and management of, as well as indication of faults in connected luminaires
- ▶ Up to 8 output circuits in protection class III (SELV)



- ▶ Each luminaire can have two input switches freely assigned to it (also to programmed dimming values). Eight switching assignments are possible for dynamic luminaires.
- ▶ Status information about system and luminaires in plain text and with LEDs
- ▶ Volt-free signalling contacts for external status indication
- ▶ Remote switch for system blocking
- ▶ Integrated INOWeb/INOLan interface
- ▶ Optionally with add-on function for central dimming





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