FRENSCH®

LIGHTING

LIGHTS FOR YOUR DAILY BUSINESS.

Instruction Manual
F-19

Preface:
The Frensch LED lamps you are holding in your hands were developed and produced by us according to the state of the art. We attach great importance to quality and we hope that you will enjoy our products for a very long time. Come and visit us at **www.frensch.de.**

Brief information:
If you are in a hurry, connect the black cable to the ground or minus line and the red cable to the plus line (10-30V DC). If necessary, the yellow cable is connected to the dimmer or to ground just for the night light. *1

Never look directly into the beam of the LED, even when it is dimmed! Otherwise, it may seriously damage the eyes! As with any other kind of reflector lamp, you should avoid looking into it in normal operation and mount the light in such a position that it is impossible to inadvertently look into it. LED lamps can reach temperatures in excess of 50°C.
Danger of burning!

Always switch off power during installation or removal!

Stroboscope effects may occur when the lamp is dimmed. *1

*1 with the dimmable version only, *2 these are approximate values
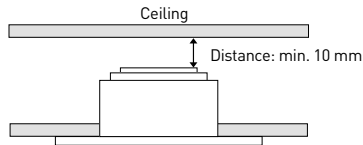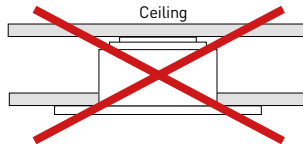*3 with the dimmable version with night light only

Purpose/description/applications:
The Frensch F-19 are LED lamps to be used in vehicles with an on-board power supply ranging from 10-30 V DC with negative ground in the weatherproofed area. The LED lamps are equipped with integrated, highly efficient electronics. The lamps are available in warm white and cold white (or according to the special wishes of the customer); optionally they can be dimmed via a PWM signal. The F-19 is available with a night light in a variety of colours.

Mounting instructions:
The lamps can be mounted in ceiling or wall panelling with the aid of two tension springs which press against the panelling after insertion. The F-19 can optionally be screwed on, either with 2 screws for thin-walled materials or with 3 screws which can be screwed into thicker materials at a slanted angle. The installation aperture must have a diameter of 66 mm or 68 mm for spring-type mounting. When fixing with screws the installation aperture must meet the required diameter of 66 mm. It is important to ensure that the air circulates behind it. The minimum distance between the heat sink and the clad-ding is 10 mm. Have mounting and connection carried out by an expert to ensure that the regulations are met and operating reliability guaranteed.
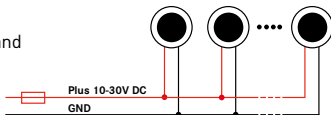

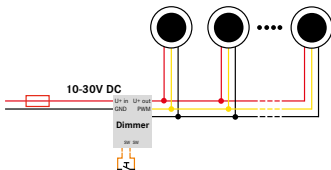*1 with the dimmable version only, *2 these are approximate values
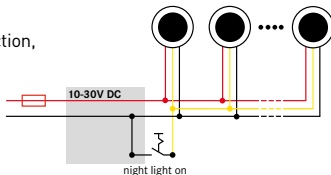*3 with the dimmable version with night light only

Example connection:

F-19 without night-light and
dimming function

Plus 10-30V DC
GND

F-19
with dimming and
night-light via a dimmer

10-30V DC

U+ in U+ out
GND PWM
Dimmer

F-19 with night-light function,
without dimming

10-30V DC

night light on

Connection:

Connect the black cable to the ground or minus line and the
red cable to the plus line (10-30V DC). If necessary the cable
is connected to the dimmer, otherwise it is left free and insu-
lataed.
If you only want to use the night-light function of the F-19 wi-
thout dimming, the yellow cable can be switched to ground/
minus with a switch. *1
Make sure you have a suitable fuse.

Information: Please bear in mind that when LED
lamps are connected to the on-board power supply
very high temporary inrush currents may occur. The
lamp is not suitable for AC voltage grids!

*1 with the dimmable version only, *2 these are approximate values
*3 with the dimmable version with night light only

Protective functions of the lamp:

Reverse polarity protection, intern 1A pre-fuse, overvoltage protection, e.g. static discharge. Operation at voltages above 30 V should be avoided; it causes defects and cancellation of the warranty.

Maintenance:

Clean the lamp with a soft moist cloth. The luminary should not get in contact with any solvent or silicone substances. This could damage the LED.

Technical Data F-19 : *2

Installation aperture diameter:	66 mm (screws)
	0°, 180° d=73.5
	Screw 2,2 x 19 mm
	0°, 120°, 240° d=66 mm at 45°
	Screw 2,2 x 19 mm
	68 mm (springs)
External front diameter:	Decorative ring approx. 85 mm (+0.5)
	Decorative ring, Quattro 85 x 85 mm
Installation depth:	45 mm (+10 mm free space)
Night light:	Red/green/blue/
	(special customer wish) *3
Weight:	175 g

Technical Data F-19: *2

Connecting cable length:	150 mm
Operating voltage:	10V-30V DC
Power input max.:	Approx. 6 watts
Current consumption at 12V/24V:	Approx. 0.5/0.3A
Colour temperature:	warmwhite/coolwhite
	(special customer wish)
Colour reproduction index (CRI):	>80
Permissible ambient temperature:	-20°C to +45°C
Heat-sink temperature:	64°C (at 23°C ambient temperature)
Max. permissible heat-sink temp.:	80°C
Permissible relative air humidity:	<85% Dimming: *1,
	PWM max. 0-30V f=200-900HZ,
	V=0/10-100% Night light at V=0 *3
	Uon 1V Uoff 0.9V
	Icontrol<0.2 mA
Protection class:	IP40 (at front IP65)
Type approval:	E13 10R-05 14410

*1 with the dimmable version only, *2 these are approximate values
*3 with the dimmable version with night light only

Troubleshooting:

The lamp does not go on although voltage is applied.
- Check the dimmer and its wiring. *1
- Check if the yellow cable is not connected to minus/ground.*1

The light goes on and off alternately although it is constantly under voltage.
- Check the temperature of the lamp. It must be below 85°C and if necessary ensure better ventilation.

The power supply you are using is not releasing any voltage.
- Please bear in mind that the switch-on current is significantly higher than the operating current and some power supply units identify overload when being switched on and off.

Warranty terms:

Please refer to **www.frensch.de**

Manufacturer: **FRENSCH** GmbH
                      Dahlingstraße 119
                      47229 Duisburg
                      Germany

Subject to typographical errors, technical modifications and errors.
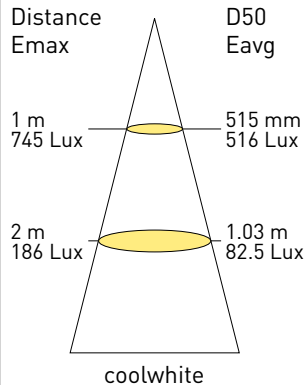
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F-19

Halbwertwinkel: Half Peak Divergence 27.67°	
Distance Emax	D50 Eavg
1 m 745 Lux	515 mm 516 Lux
2 m 186 Lux	1.03 m 82.5 Lux
	coolwhite

Made in Germany