DMX REFERENCE

Selecon PLFresnel1

Philips Selecon PLFresnel1 LED Luminaire

Philips Selecon



Manufacturer	Philips Selecon
GDTF file	Philips_Selecon_Selecon_PLFresnel1_114199.gdtf
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1 About this manual

This document describes the Philips Selecon PLFresnel1 LED Luminaire by Philips Selecon. It was compiled from the GDTF file Philips_Selecon_Selecon_PLFresnel1_114199.gdtf from the GDTF-Share library.

File revision: “Revision 2”.

The DMX modes, the channel functions and the technical data are given as the GDTF file states them. Installation, operation from the device's control panel, service and safety instructions are described in the manufacturer's original user manual, which takes precedence over this document.

This document was not issued or endorsed by Philips Selecon; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Power consumption	30 W
Weight	5.1 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
3 Channel	3	170	1, 4, 7, 10, ...
8 Bit Mode	9	56	1, 10, 19, 28, ...
16 Bit Mode	15	34	1, 16, 31, 46, ...

No light? Check these channels

- 3 Channel: CH 1 Dimmer above 0
- 8 Bit Mode: CH 1 Dimmer above 0
- 16 Bit Mode: CH 1 Dimmer above 0


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

⚠ WARNING

- This device is intended for professional use. Installation, connection, setup and maintenance must be carried out only by suitably qualified persons who have read this manual.
- Use the device only for its intended purpose and as described in this manual.
- Do not open the housing and do not modify or tamper with the device. Refer all repairs to an authorized service center.
- Do not use the device if its housing, power or data cable, or a connector is damaged, if the device has been dropped, or if liquid or a foreign object has entered it. In such a case, have it checked by a service center.
- Disconnect the device from the power supply before cleaning, maintenance or any work on the connections.
- After moving the device from a cold to a warm environment, let it reach room temperature before switching it on to prevent condensation inside.
- The device is not a toy; keep it out of the reach of children.

⚠ WARNING

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ WARNING

- This device is designed for indoor use only. Protect it from rain, splashing water, moisture and dust, and do not place containers with liquids on it.
- Do not operate the device in high humidity, near water, or where condensation can form on it.

⚠ CAUTION

- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do not aim the beam at flammable or heat-sensitive materials at close range.

4 Product description

Description in the GDTF file

“The PLFresnel1 is a RGBW fresnel with RDM and 16-bit colors”

5 Installation

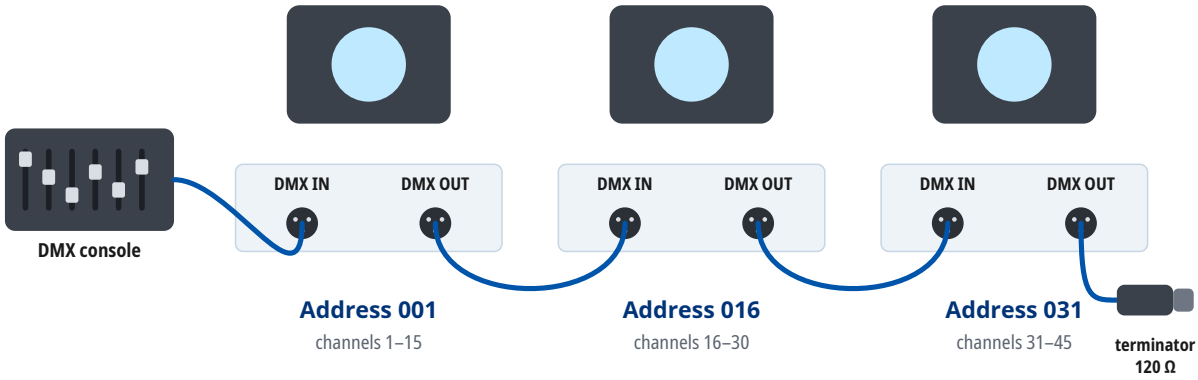
⚠ **WARNING**

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 5.1 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode 16 Bit Mode: every unit occupies 15 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “16 Bit Mode”: 15.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “16 Bit Mode”, you can use, for example, the start addresses 1, 16, 31, 46.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

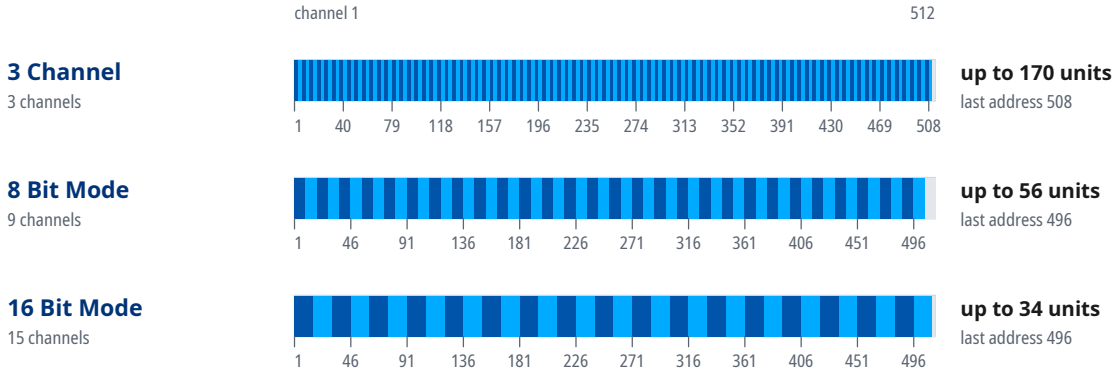
8 Functions at a glance

Functions in each DMX mode

	3 Channel 3 channels	8 Bit Mode 9 channels	16 Bit Mode 15 channels
Dimmer	1	1	1
Dimmer resolution	8 bit	8 bit	16 bit
Color mixing		2–5	4× (3–9)

9 DMX channels

Units in one DMX universe



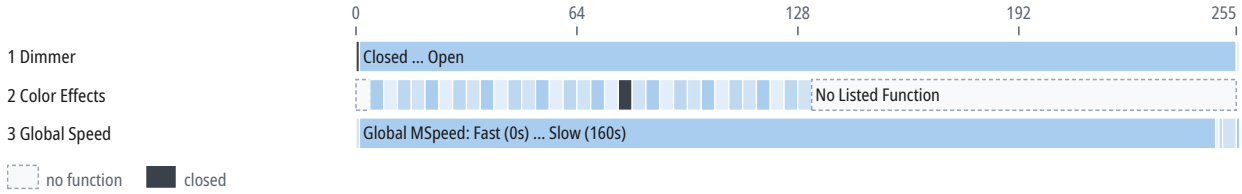
Start addresses of 20 units in the mode “16 Bit Mode”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	76	11	151	16	226
2	16	7	91	12	166	17	241
3	31	8	106	13	181	18	256
4	46	9	121	14	196	19	271
5	61	10	136	15	211	20	286

Mode 3 Channel

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Color Effects 14.

Channel functions at a glance



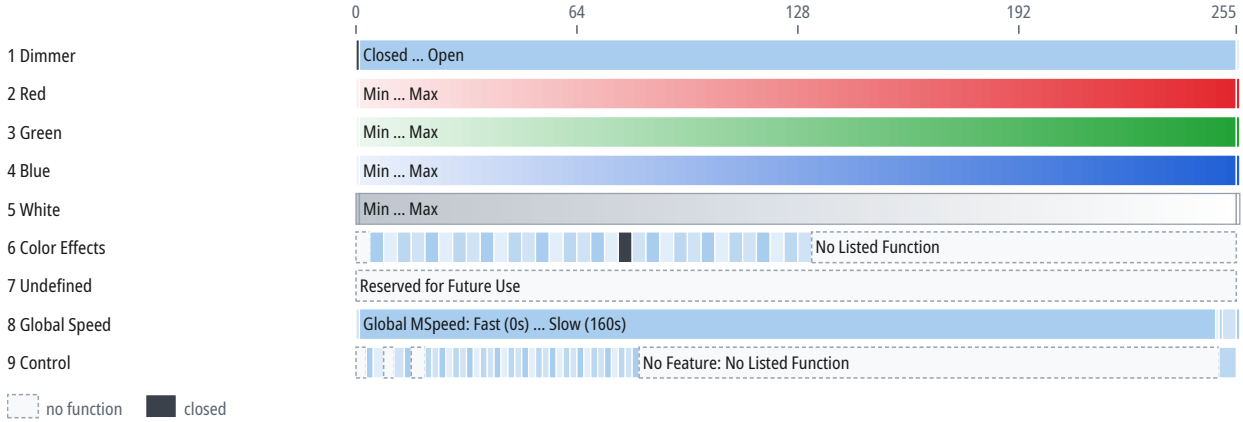
CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
2	Color Effects	0–3	No Function
		4–7	Color Preset 0 (Off)
		8–11	Color Preset 1 (Scratch Pad)
		12–15	Color Preset 2 (Warm White)
		16–19	Color Preset 3 (Cool White)
		20–23	Color Preset 4 (Daylight)
		24–27	Color Preset 5 (Arc White)

CH	Function	DMX	Description
2	Color Effects (continued)	28–31	Color Preset 6 (Red)
		32–35	Color Preset 7 (Yellow)
		36–39	Color Preset 8 (Daylight Blue)
		40–43	Color Preset 9 (Magenta)
		44–47	Color Preset 10 (Kelly Green)
		48–51	Color Preset 11 (Medium Amber)
		52–55	Color Preset 12 (Lavender)
		56–59	Color Preset 13 (Blue)
		60–63	Color Preset 14 (Light Pink)
		64–67	Color Preset 15 (Green)
		68–71	Color Preset 16 (Pink)
		72–75	Color Preset 17 (Amber White)
		76–79	Color Preset 18 (Dark Fuchsia)
		80–83	Color Preset 19 (Light Amber)
		84–87	Color Preset 20 (Steel Blue)
		88–91	Color Preset 21 (Light Green/Blue)
		92–95	Color Preset 22 (Orange)
		96–99	Color Preset 23 (Medium Pink)
		100–103	Color Preset 24 (Cyan)
		104–107	Color Preset 25 (Purple)
		108–111	Color Preset 26 (Custom 1)
		112–115	Color Preset 27 (Custom 2)
		116–119	Color Preset 28 (Custom 3)
		120–123	Color Preset 29 (Custom 4)
		124–127	Color Preset 30 (Custom 5)
		128–131	Color Preset 31 (Custom 6)
		132–255	No Listed Function
3	Global Speed	0	Global MSpeed: Fast (0s)
		1–248	Global MSpeed: Fast (0s) ... Slow (160s)
		249	Global MSpeed: Slow (160s)
		250	Global MSpeed: Fast (60ms)
		251–254	Global MSpeed: Fast (60ms) ... Slow (160ms)
		255	Global MSpeed: Slow (160ms)

Mode 8 Bit Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “3 Channel” (p. 7)
2	Red	0	Min
		1–254	Min ... Max
		255	Max
3	Green	0	Min
		1–254	Min ... Max
		255	Max
4	Blue	0	Min
		1–254	Min ... Max
		255	Max
5	White	0	Min
		1–254	Min ... Max
		255	Max
6	Color Effects		Same as CH 2 in the mode “3 Channel” (p. 7)
7	Undefined	0–255	Reserved for Future Use
8	Global Speed		Same as CH 3 in the mode “3 Channel” (p. 8)
9	Control	0–2	Default Setting from Console
		3–4	Display Toggle (hold for 3 seconds)
		5–7	Reset all (hold for 3 seconds)
		8–10	No Feature: No Listed Function
		11–13	Quiet Mode
		14–15	Normal Mode
		16–19	No Feature: No Listed Function
		20–21	Preset 1 Store
		22–23	Preset 2 Store (Intensity Only)

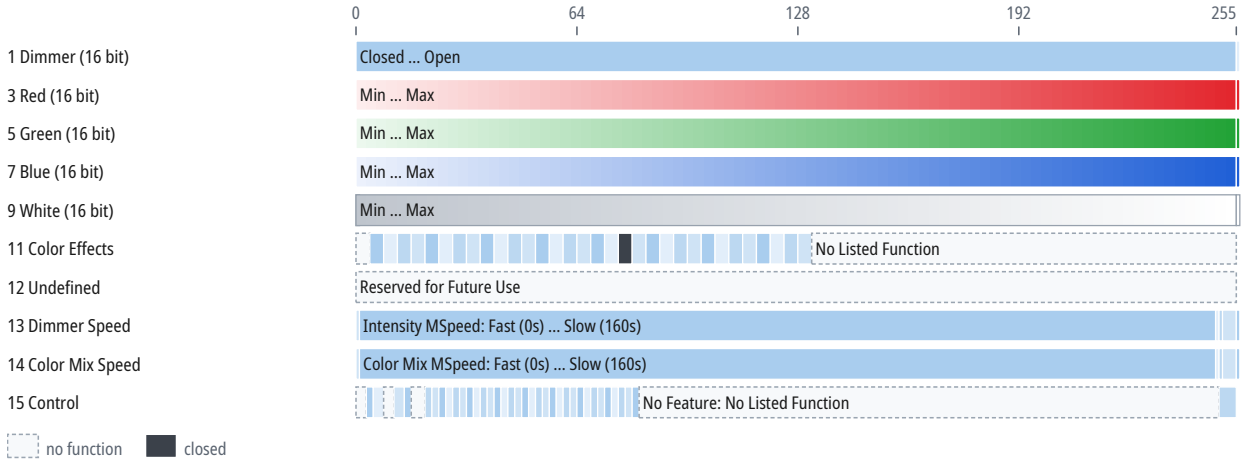
CH	Function	DMX	Description
9	Control (continued)	24–25	Preset 3 Store (Intensity Only)
		26–27	Preset 4 Store (Intensity Only)
		28–29	Preset 5 Store
		30–31	Preset 6 Store
		32–33	Preset 7 Store
		34–35	Preset 8 Store
		36–37	Preset 9 Store
		38–39	Preset 10 Store
		40–41	Preset 11 Store
		42–43	Preset 12 Store
		44–45	Preset 13 Store
		46–47	Preset 14 Store
		48–49	Preset 15 Store
		50–51	Preset 16 Store
		52–53	Preset 17 Store
		54–55	Preset 18 Store
		56–57	Preset 19 Store
		58–59	Preset 20 Store
		60–61	Preset 21 Store
		62–63	Preset 22 Store
		64–65	Preset 23 Store
		66–67	Preset 24 Store
		68–69	Preset 25 Store
		70–71	Preset 26 Store
		72–73	Preset 27 Store
		74–75	Preset 28 Store
		76–77	Preset 29 Store
		78–79	Preset 30 Store
		80–81	Preset 31 Store
		82–249	No Feature: No Listed Function
		250–255	Fixture Reset

Mode 16 Bit Mode

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Red 255, CH 5 Green 255, CH 7 Blue 255.

Channel functions at a glance



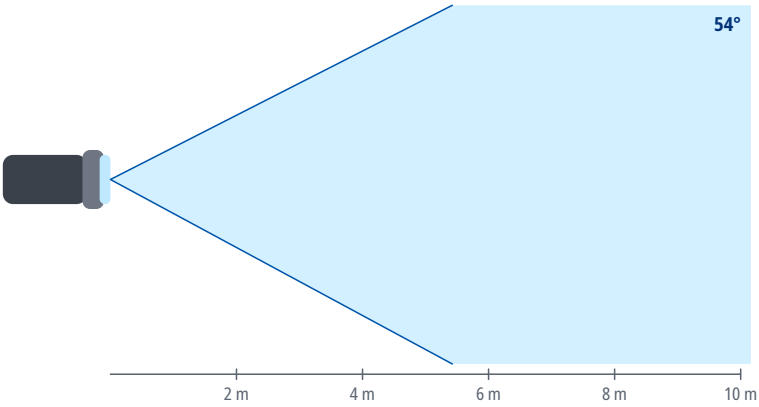
CH	Function	DMX	Description
1	Dimmer	0–255	Closed ... Open
		255	Open
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Red	0–255	Min ... Max
		255	Max
4	Red Fine	0–255	Fine adjustment of CH 3
5	Green	0–255	Min ... Max
		255	Max
6	Green Fine	0–255	Fine adjustment of CH 5
7	Blue	0–255	Min ... Max
		255	Max
8	Blue Fine	0–255	Fine adjustment of CH 7
9	White	0–255	Min ... Max
		255	Max
10	White Fine	0–255	Fine adjustment of CH 9
11	Color Effects		Same as CH 2 in the mode “3 Channel” (p. 7)
12	Undefined	0–255	Reserved for Future Use
13	Dimmer Speed	0	Intensity MSpeed: Fast (0s)
		1–248	Intensity MSpeed: Fast (0s) ... Slow (160s)
		249	Intensity MSpeed: Slow (160s)
		250	Intensity MSpeed: Fast (60ms)
		251–254	Intensity MSpeed: Fast (60ms) ... Slow (160ms)
		255	Intensity MSpeed: Slow (160ms)

CH	Function	DMX	Description
14	Color Mix Speed	0	Color Mix MSpeed: Fast (0s)
		1–248	Color Mix MSpeed: Fast (0s) ... Slow (160s)
		249	Color Mix MSpeed: Slow (160s)
		250	Color Mix MSpeed: Fast (60ms)
		251–254	Color Mix MSpeed: Fast (60ms) ... Slow (160ms)
		255	Color Mix MSpeed: Slow (160ms)
15	Control		Same as CH 9 in the mode “8 Bit Mode” (p. 9)

10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	120 W
Luminous flux	2,000 lm
Color temperature	4,000 K
Color rendering index (CRI)	85
Optics	
Beam angle	54°
Control	
DMX connection	5-pin XLR IN/OUT
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	30 W
Power connectors	PowerConBlue IN, NAC3FCB OUT
Dimensions and construction	
Weight	5.1 kg
Operating environment	
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 54°
2 m	2 m
4 m	4.1 m
6 m	6.1 m
8 m	8.2 m
10 m	10.2 m
15 m	15.3 m

Spot diameter square to the beam axis, calculated from the beam angle.

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.
- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.

13 Disposal

The crossed-out wheeled bin symbol on the product, in the manual or on the packaging means that the product must not be disposed of with unsorted household waste at the end of its life.

Take the end-of-life equipment to a collection point, for example a municipal collection site or a retailer. Proper disposal enables materials to be recycled and helps prevent possible negative effects on the environment and human health.

Follow the regulations applicable in your country; in the Czech Republic, take-back is governed by Act No. 542/2020 Coll., on End-of-Life Products.

Recycle the packaging materials according to their type.