DMX REFERENCE

BLINDER 4100

PRstage



Manufacturer	PRstage
GDTF file	PRstage_BLINDER_4100_114659.gdtf
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1 About this manual

This document describes the BLINDER 4100 by PRstage. It was compiled from the GDTF file PRstage_BLINDER_4100_114659.gdtf from the GDTF-Share library.

File revision: “ver 1_1”.

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 PRstage; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 3 - 8Ch	8	64	1, 9, 17, 25, ...
Mode 2 - 4CH	4	128	1, 5, 9, 13, ...
Mode 1 - 1CH	1	512	1, 2, 3, 4, ...

No light? Check these channels

- Mode 3 - 8Ch: CH 2 Strobe at 0–4 “open”


Read the manual before use


Do not stare into the light


Indoor use only

3 Safety instructions



Read the manual before use



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

- 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.

⚠ CAUTION

- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them longer than necessary.

⚠ WARNING

- This device produces very intense flashes of light.
- Flash rates of about 3 to 30 flashes per second carry the highest risk for people with photosensitive epilepsy.
- Do not aim the device into the eyes of the audience or performers at close range.
- At public events, always give clear advance notice that strobe effects will be used.

4 Installation

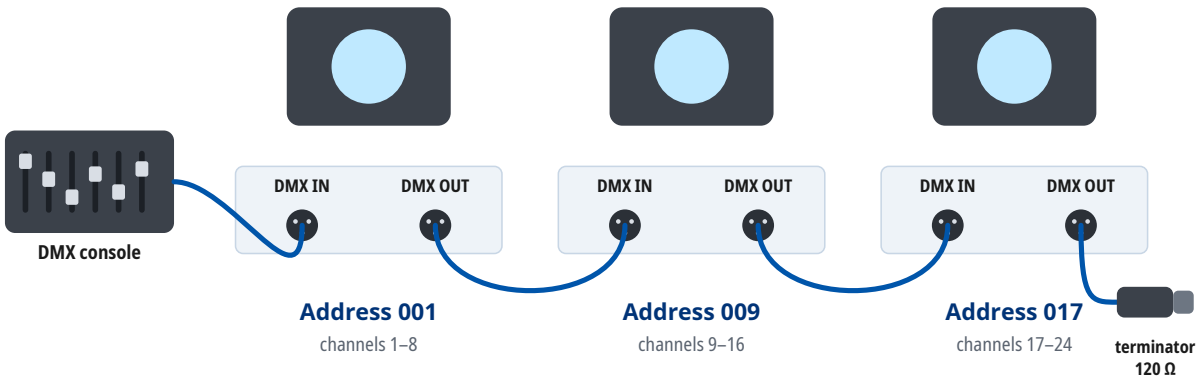
⚠ WARNING

- 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.
- 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.

5 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 3 - 8Ch: every unit occupies 8 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.

6 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 “Mode 3 - 8Ch”: 8.
- 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 “Mode 3 - 8Ch”, you can use, for example, the start addresses 1, 9, 17, 25.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

Functions in each DMX mode

	Mode 3 - 8Ch 8 channels	Mode 2 - 4CH 4 channels	Mode 1 - 1CH 1 channel
Dimmer	1, 5–8	1–4	1
Shutter / strobe	2		
Effects / macros	3, 4		
Pixel control	✓	✓	

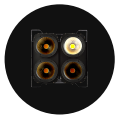
Gobo wheel

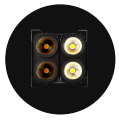
1

All or none
DMX 0–24

2

The first lamp bead came on
DMX 25–29

3

The second lamp bead is on
DMX 30–34

4

The first one shines along with second lamp bead
DMX 35–39

5

The third lamp bead came on
DMX 40–44

6

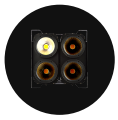
The first one shines along with the trird lamp bead
DMX 45–49

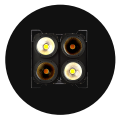
7

The second one is illuminated alog with the third lamp bead
DMX 50–54

8

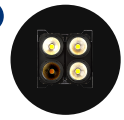
The first second and third beads light together
DMX 55–59

9

The fourth lamp bead is on
DMX 60–64

10

The first one lights up along with the fourth lamp bead
DMX 65–69

11

The second one is illuminated along with the fourth lamp bead
DMX 70–74

12

The first-second and fourth bead light together
DMX 75–79

13

The third one is illuminated along with the fourth lamp bead
DMX 80–84

14

The first-third and fourth lamp beads light together
DMX 85–89

15

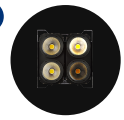
The second-third and fourth beads light together
DMX 90–94

16

The four lamp beads are all bright
DMX 95–99

17

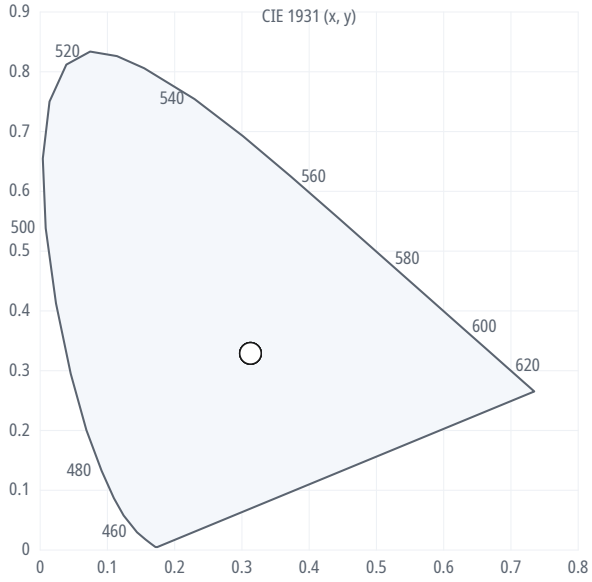
Gradual Change
DMX 100–124

18

Pulse Change
DMX 125–149

19

A lamp runs Clockwise
DMX 150–159

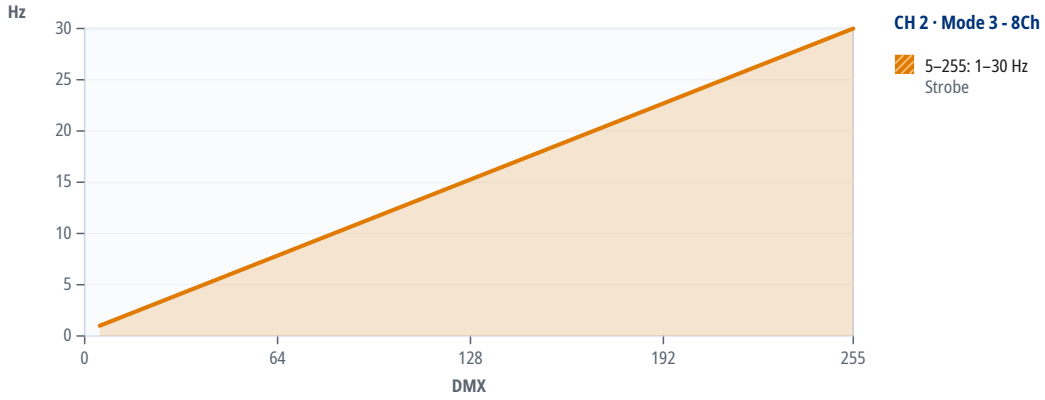
LED colors



LED	x	y
Led1	0.313	0.329
Led2	0.313	0.329
Led3	0.313	0.329
Led4	0.313	0.329

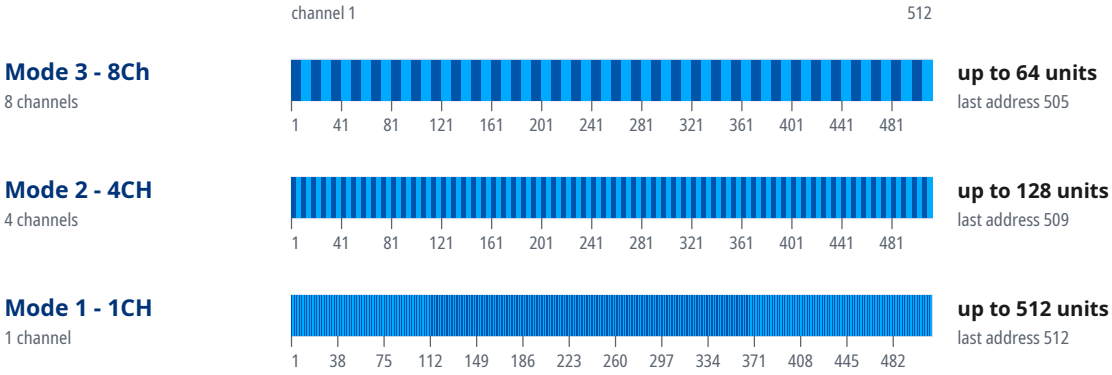
The dots are the LED colors the GDTF file states.

Strobe rate



8 DMX channels

Units in one DMX universe



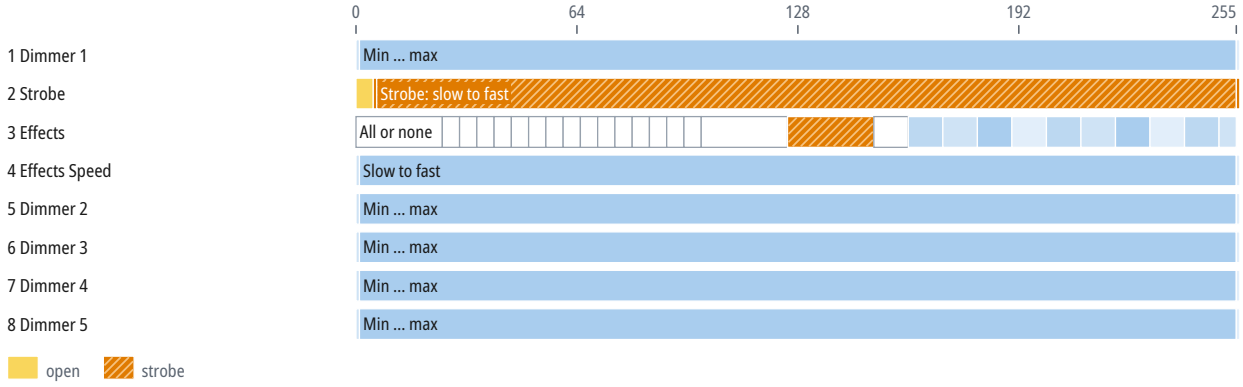
Start addresses of 20 units in the mode “Mode 3 - 8Ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	41	11	81	16	121
2	9	7	49	12	89	17	129
3	17	8	57	13	97	18	137
4	25	9	65	14	105	19	145
5	33	10	73	15	113	20	153

Mode 3 - 8Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 2 Strobe at 0–4 “open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 5 Dimmer 2 255, CH 6 Dimmer 3 255, CH 7 Dimmer 4 255, CH 8 Dimmer 5 255.

Channel functions at a glance



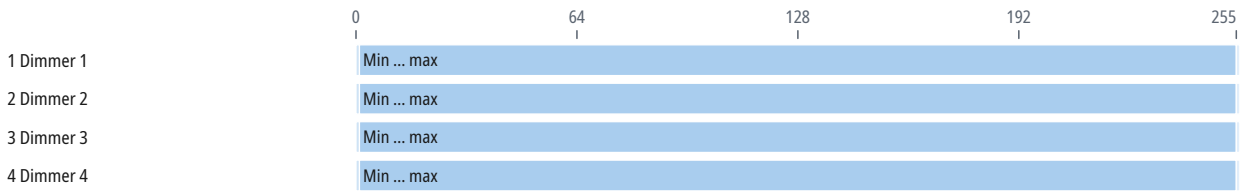
CH	Function	DMX	Description
1	Dimmer 1	0	Min
		1–254	Min ... max
		255	Max
2	Strobe	0–4	Shutter: open
		5	Min strobe
		6–254	Strobe: slow to fast
		255	Max strobe
3	Effects	0–24	All or none
		25–29	The first lamp bead came on
		30–34	The second lamp bead is on
		35–39	The first one shines along with second lamp bead
		40–44	The third lamp bead came on
		45–49	The first one shines along with the trird lamp bead
		50–54	The second one is illuminated alog with the third lamp bead
		55–59	The first second and third beads light together
		60–64	The fourth lamp bead is on
		65–69	The first one lights up along with the fourth lamp bead
		70–74	The second one is illuminated along with the fourth lamp bead
		75–79	The first-second and fourth bead light together
		80–84	The third one is illuminated along with the fourth lamp bead
		85–89	The first-third and fourth lamp beads light together
		90–94	The second-third and fourth beads light together
		95–99	The four lamp beads are all bright
		100–124	Gradual Change
		125–149	Pulse Change

CH	Function	DMX	Description
3	Effects (continued)	150–159	A lamp runs Clockwise
		160–169	A lamp runs CounterClockwise
		170–179	A light is refreshed clockwise
		180–189	A light is refreshed counterclockwise
		190–199	The two lights ran back and forth diagonally
		200–209	The two lights ran back and forth in parallel
		210–219	The two lights run back and forth vertically
		220–229	A lamp ran back from end to end
		230–239	A lamp ran back and forth from beginning to end
		240–249	Two kights are diagonal X-shaped run
		250–255	Sound control mode
4	Effects Speed		Macro speed
		0	Min speed
		1–254	Slow to fast
		255	Max speed
5	Dimmer 2	0	Min
		1–254	Min ... max
		255	Max
6	Dimmer 3	0	Min
		1–254	Min ... max
		255	Max
7	Dimmer 4	0	Min
		1–254	Min ... max
		255	Max
8	Dimmer 5	0	Min
		1–254	Min ... max
		255	Max

Mode 2 - 4CH

The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 2 Dimmer 2 255, CH 3 Dimmer 3 255, CH 4 Dimmer 4 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer 1		Same as CH 1 in the mode “Mode 3 - 8Ch” (p. 8)
2	Dimmer 2		Same as CH 5 in the mode “Mode 3 - 8Ch” (p. 9)
3	Dimmer 3		Same as CH 6 in the mode “Mode 3 - 8Ch” (p. 9)
4	Dimmer 4		Same as CH 7 in the mode “Mode 3 - 8Ch” (p. 9)

Mode 1 - 1CH

The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0	Min
		1–254	Min ... Max
		255	Max

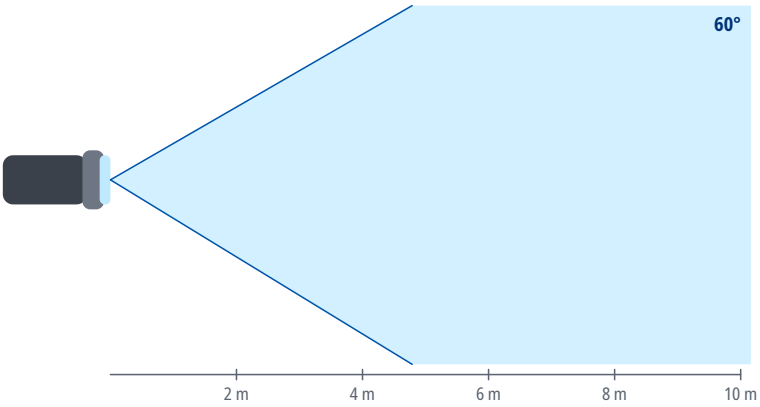
9 Technical specifications

Parameter	Value
Light source	LED
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–30 Hz

Spot diameter



Distance	Ø 60°
2 m	2.3 m
4 m	4.6 m
6 m	6.9 m
8 m	9.2 m
10 m	11.5 m
15 m	17.3 m

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

10 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.

11 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.

12 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.