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DPB Pixel-Router MK2

User Guide

GENERATION 3

Version May 2017: All technical data and the weight and dimension information were carefully created – errors reserved. Any colour deviations are printing-related.

We reserve the right to make changes that serve further improvement.

Contents

Overview

The DPB Pixel-Router is a high-performance Ethernet-DPB-converter that is the ideal solution for supplying permanent installations with power and control data.

The DPB Pixel-Router incorporates everything that is essential for an optimal permanent installation without being weighted down with redundancies; for example, it functions without DMX inputs, buttons and displays.

More than 11 years of experience in the field of "Video to LED Ethernet" has gone into the current technology-based design. The DPB Pixel-Router is therefore equipped with an optimized Video to LED circuitry that can process handle large quantities of data extremely quickly. It is one of the few devices on the market that can handle Ethernet bursts with more than 250 universes. What's more, it has an optimized multi-tasking, real-time operating system that processes and transmits video data synchronously and latency free. Its Ethernet hardware can accept large volumes of data and redirect to the processor without any delays. In this way, loss of data packages is prevented or data is not stored too long unnecessarily. Furthermore, the DPB interfaces are also synchronized. This therefore effectively prevents time lags that are especially noticeable and annoying in LED installations.

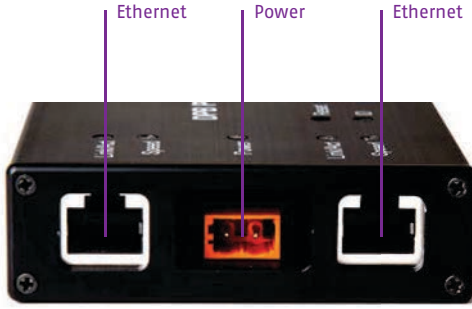
The DPB Pixel-Router is compatible with the protocols sACN, Art-Net™ and Schnicknet.

Thanks to an integrated HTML 5.0 webserver, the router can be completely configured remotely. The use of any specific software is not necessary, which is particularly important for long-standing, permanent installations.

The very small, compact device can find a place in any application. The cabling effort is minimal. Outside of a 320-Watt power supply and an Ethernet cable, no other cabling is needed. XLR cables, XLR adapter boxes and return lines are omitted.

Connectivity

You can find the following connection options on the device:



Out 1-4	System connctor red, maximum 3A
Link/Act	Ethernet input, RJ 45
Power	24V connection, Wago connector with lock

Menu/Display

In the inside of the device you can find the following Status-LEDs:

ID Lights up blue when the search/highlight function is activated in the web server

Power Lights up red when hooked up to electricity

Link/Act Lights up green when a physical Ethernet connection exists; flashes when data is received

Speed Lights up yellow when a 100Mbit network connection exists; does not light up if a 10Mbit network connection is present

Out 1-4 Lights up green when a DMX signal for the corresponding output is received and transmitted

Error messages in case of short circuit

If an error is detected (current > 3.3A) the corresponding output is switched off. The LED of the output starts flashing. After 30 sec the output is switched on again. If the 10th switching was not successful (current < 3.3A), the output is in a permanent error state from which you can only get out with a reset or a power off.

Reset

To activate the Reset button, poke a thin object through the opening at the front. You can re-start the unit by pressing the Reset button briefly. If you press the Reset button longer than five seconds, the unit returns to the factory settings and re-starts (Power LED blinks). When you press the Reset button longer than 15 seconds, the IP setting also is re-set in addition to the factory settings (ID LED blinks) and the unit re-starts.

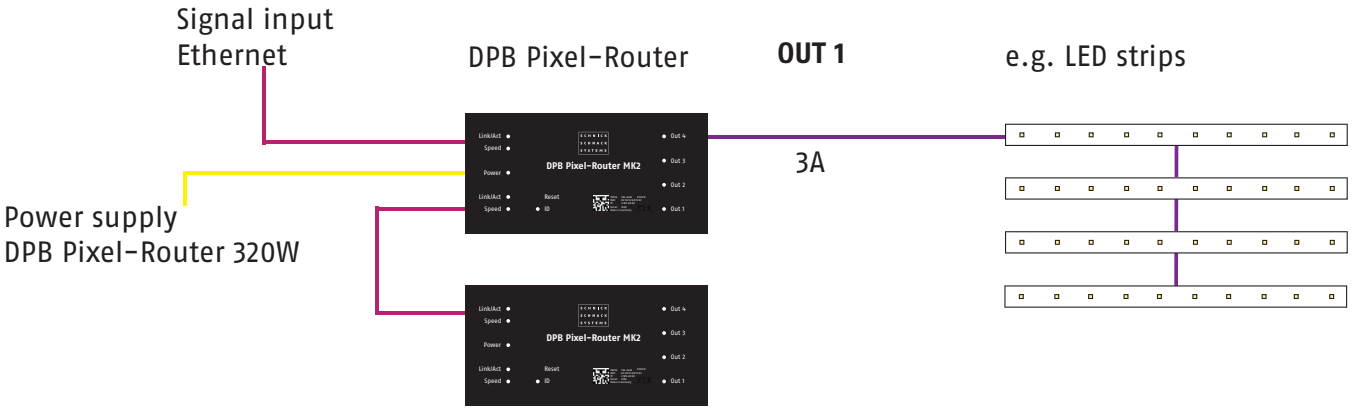
Installation

Check the device for any damage incurred during transit immediately after unpacking. A damaged unit should not be used.

If the DPB Pixel-Router has been taken from a cold environment into a warm interior, allow at least one hour for it to warm up before it is put into operation. This allows possibly formed condensation to evaporate and therefor the electronics are not endangered. The supply air temperature should not exceed 35°C.

Keep the unit out of direct sunlight at all times. Never clean the device with aggressive cleaners. For cleaning purposes, the wiping of the device with a moist cloth is sufficient. In the case of stubborn dirt, a mild cleaner can be used on the moistened cloth.

Cabling



To access the webserver

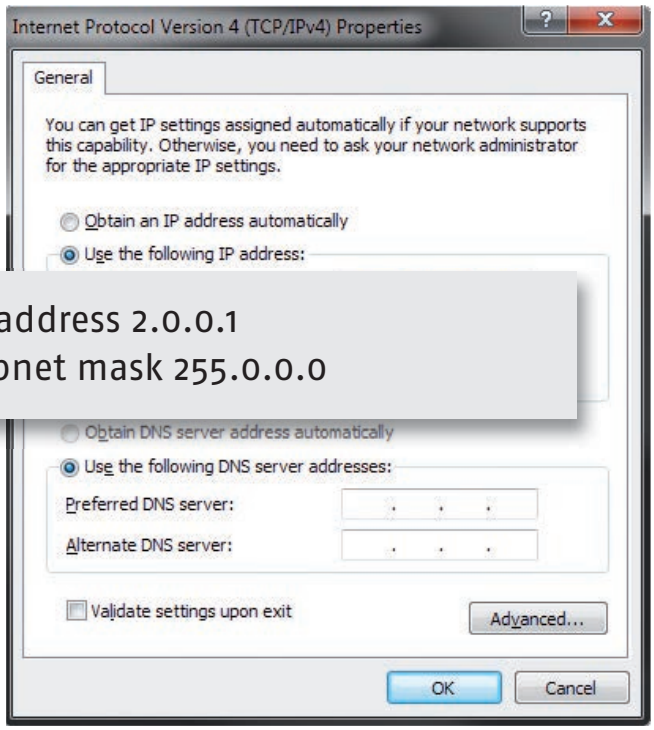
Step 1

Connect the PC to the DPB Pixel-Router by using a network cable.

Step 2

Configure the network card on Art-Net.

Caution: please note previous settings so they can be re-entered later.

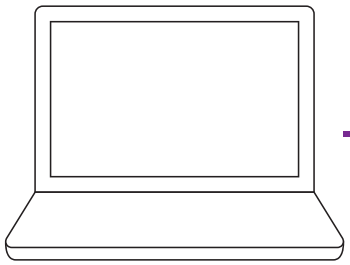


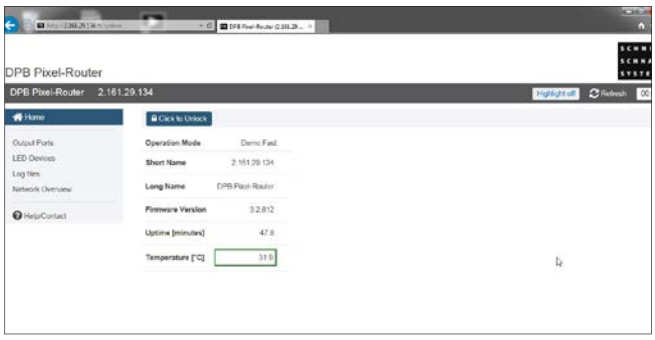
Step 3

Find the IP address on the top of the device.

Step 4

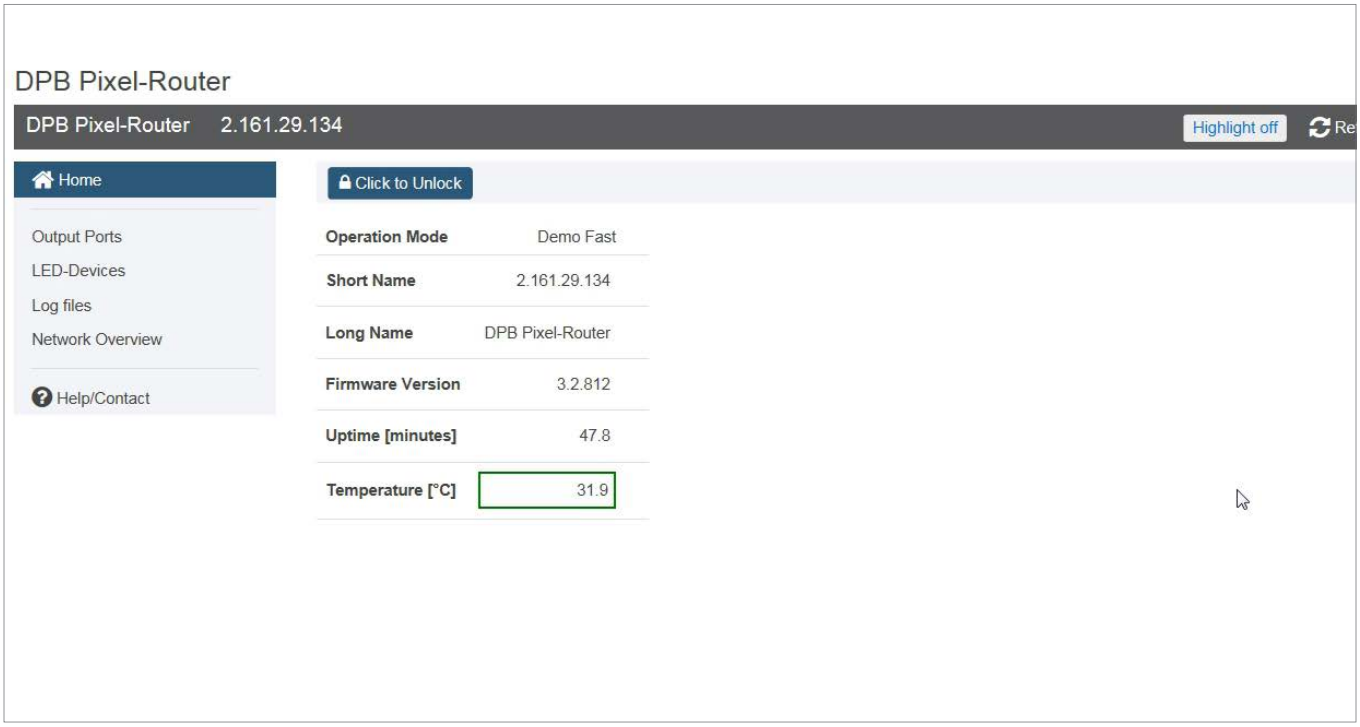
Enter the IP address into the browser.





Webserver settings

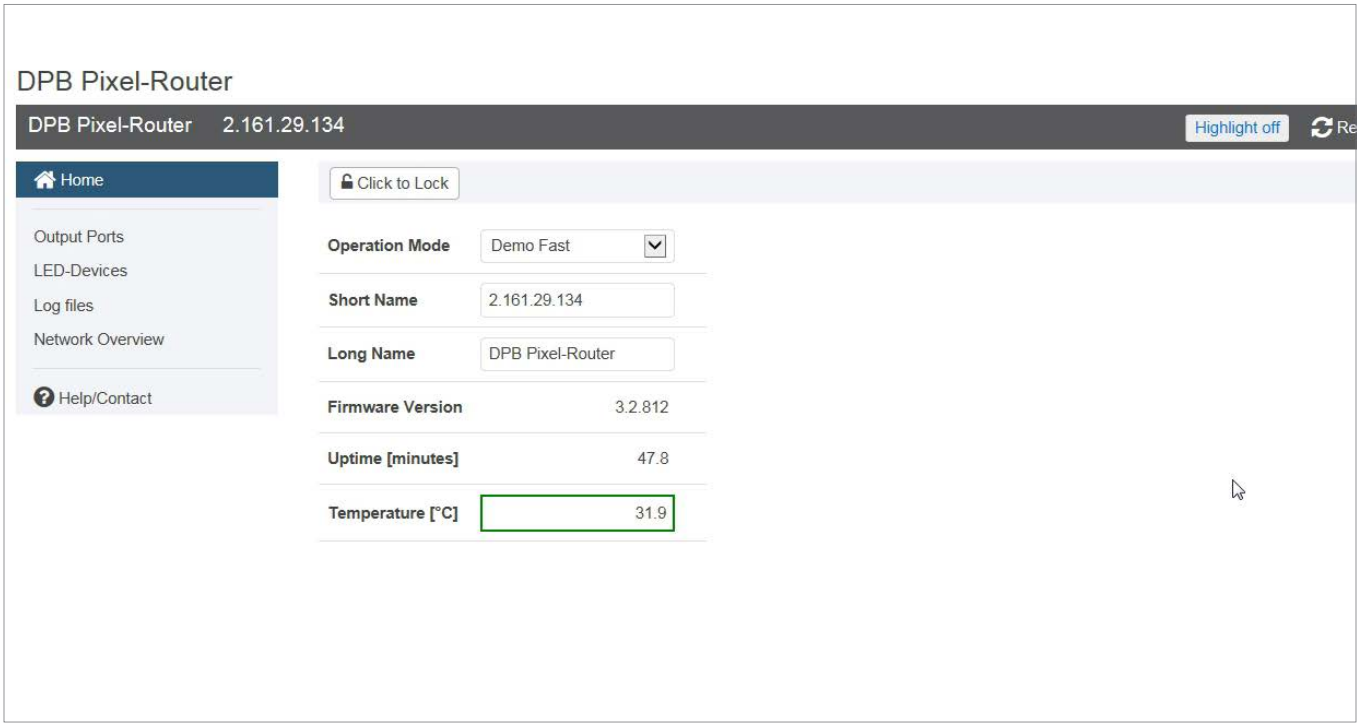
Homepage



This is where the DPB Pixel-Router's basic data is displayed.

Highlight off/on: when switching the Highlight on, the blue ID-LED lights up on the Router. With the help of the Highlight-Buttons, especially for larger installations, the device can detect that it's being configured via the web server.

By clicking on **„Click to unlock"** you can change the **Operation Mode** as well as the **name of the Router**.



Operation Mode

The following modes are available for your use:

QuickPatch Network
The QuickPatch Network Mode offers the possibility to handle several universes and to allocate outputs for the universes and start addresses.

Manual RGB
In this menu item it's possible to choose a colour for all output channels in a very easy manner.

Demo Fast/Demo Slow
In this mode, all connected RGB lights show a repetitive, predetermined colour change. The two modes only differ in their throughput speed.

Update
New software versions keep products up to date and are available upon request.

Click **„Click to save changes"** in order store changes.

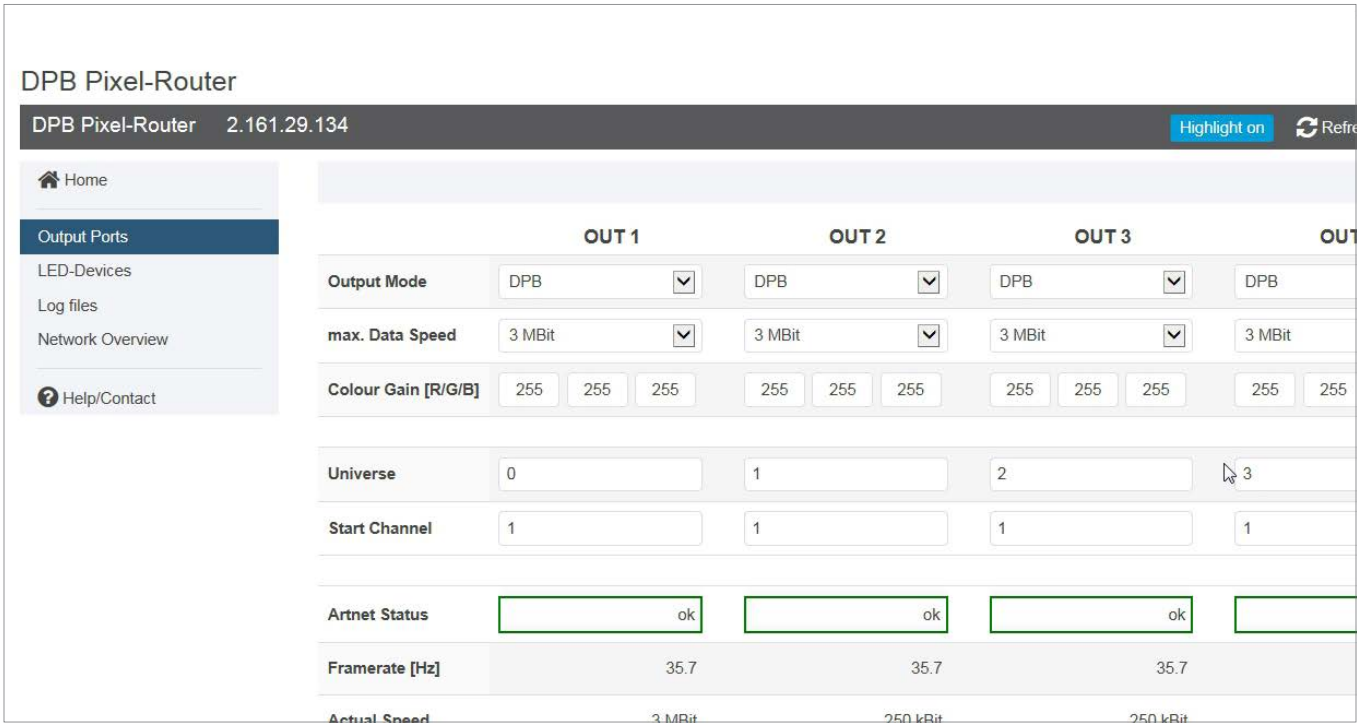
Short Name/Long Name

In this field, you can give the DPB Pixel-Router an individual name.

The names are show in the grey list making it easier to identify the different Routers.

They will also be displayed in the network overview as well as by some Art-Net capable devices or software tools.

Output Ports



Under the menu item **„Output Ports“**, you can find the overview of the device outputs. This is where you can set the Output Mode, the maximum **Data Speed** of the **Colour Gain** and the **Combine Mode**.

Output Mode

Switching the transfer protocol between DMX 512 and DPB. The mode can be freely selected for each output.

Max. Data Speed

The following data speeds are available: 250kBit, 500kBit, 1MBit, 1,5MBit, 3MBit. This setting only has an impact in Mode DPB. The maximum speed on one port can be limited through this setting in order to enable a better transmission on poor lines. Please be aware that this will reduce the data throughput and depending on the number of connected devices not all of the received data can be carried on in its same volume and rate.

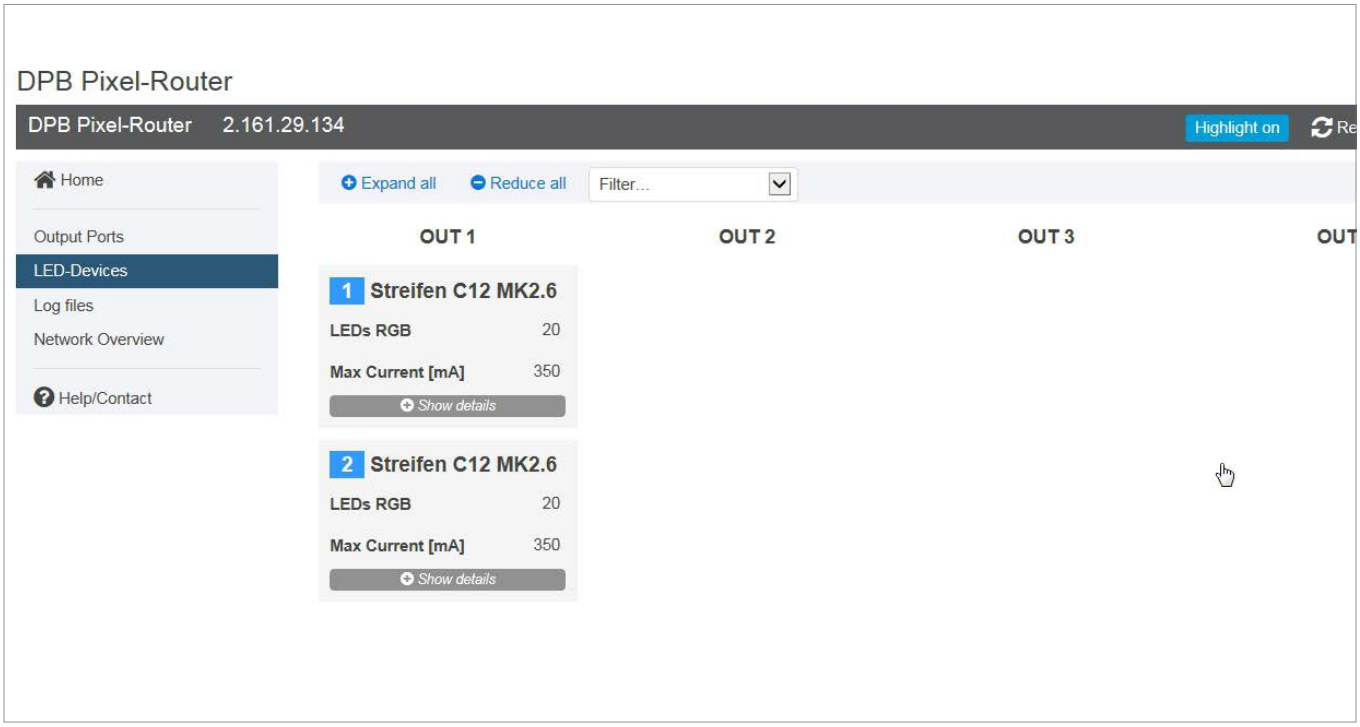
Colour Gain

This function enables the darkening of the colour channels red, green and blue. This function is deactivated at 255.

Refresh

The page is reloaded and any changes that have not been saved will be lost.

LED-Devices

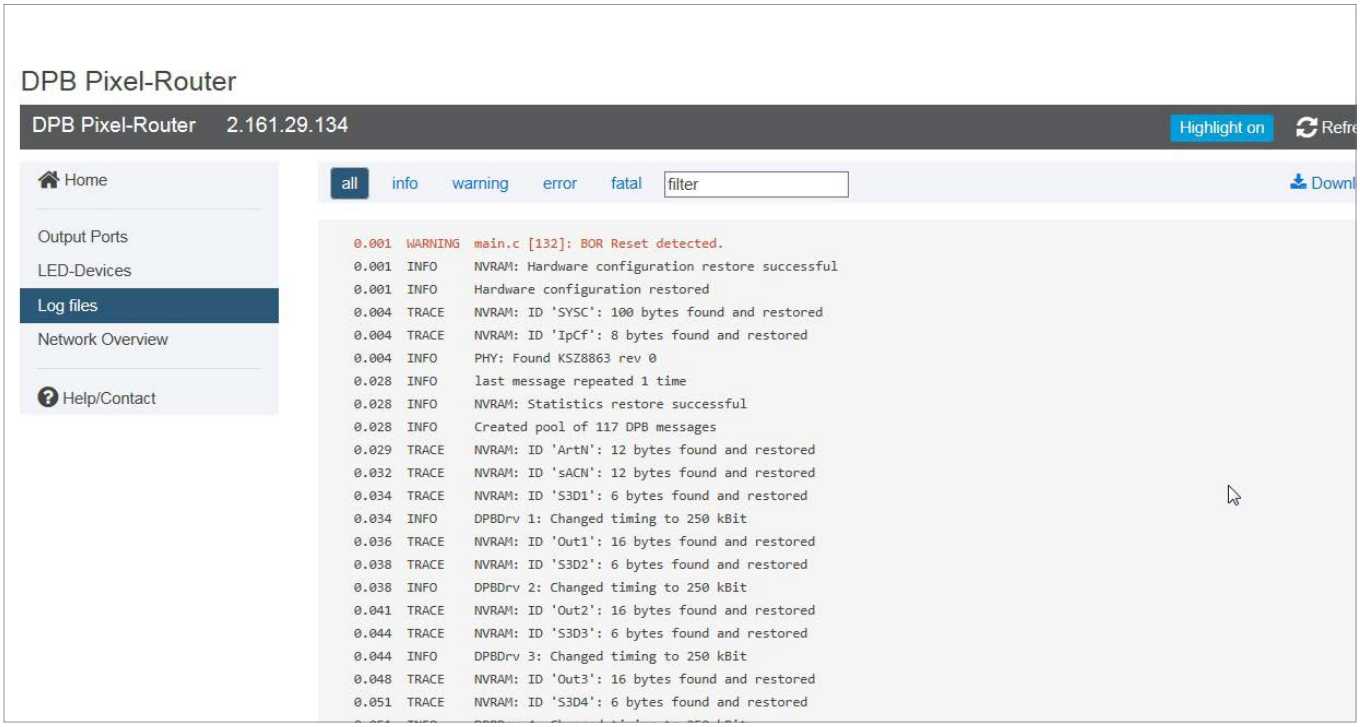


On this page all connected, Generation-3 compatible LED products are listed. Available information on each product is displayed. This includes type and nature of the product, as well as status information such as temperature and voltage.

If the Output Mode of the output is set to DMX then information will not be available.

Products from the L and B series, as well as LED components designated as MKI cannot be displayed.

Log files

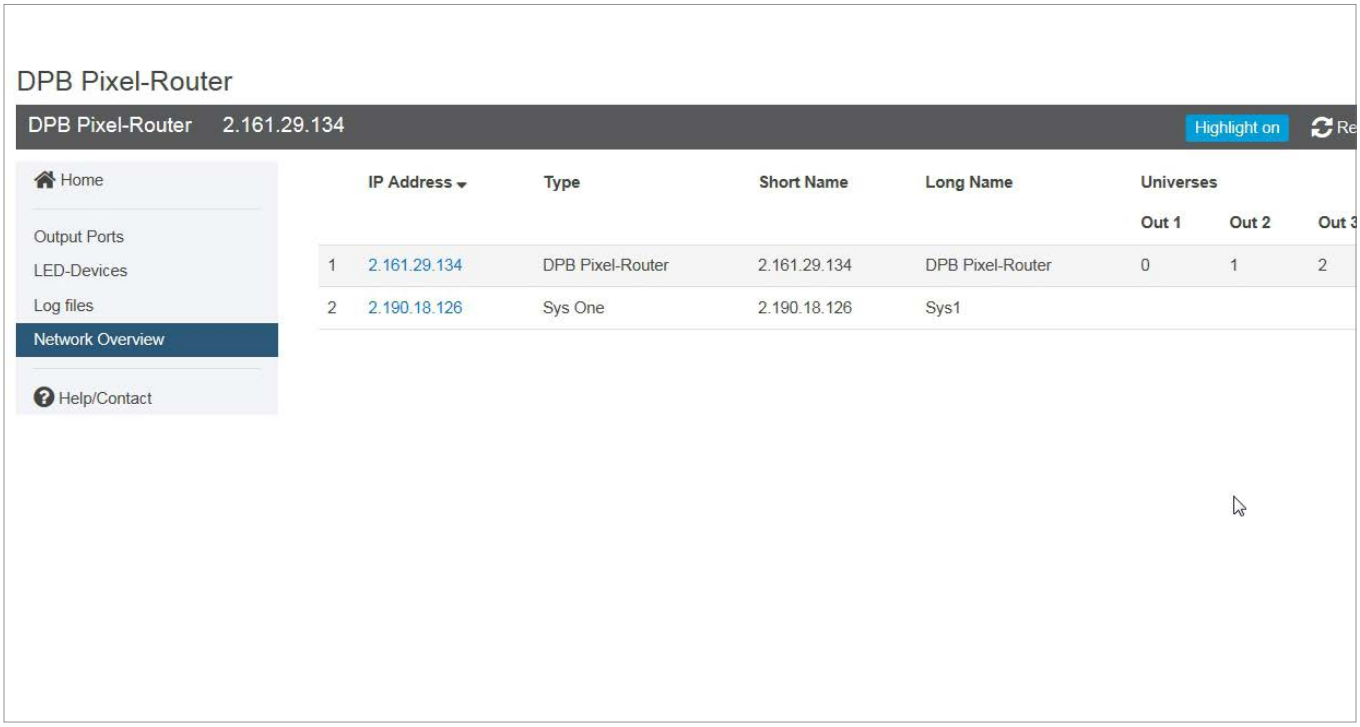


Service page for error analysis.

The processes in the Router will be logged making error analysis easier if applicable.

The log data can be downloaded as a text file if required via "Download as". The log data will be lost in the case of re-starting or loss of power and as of that moment will be newly logged.

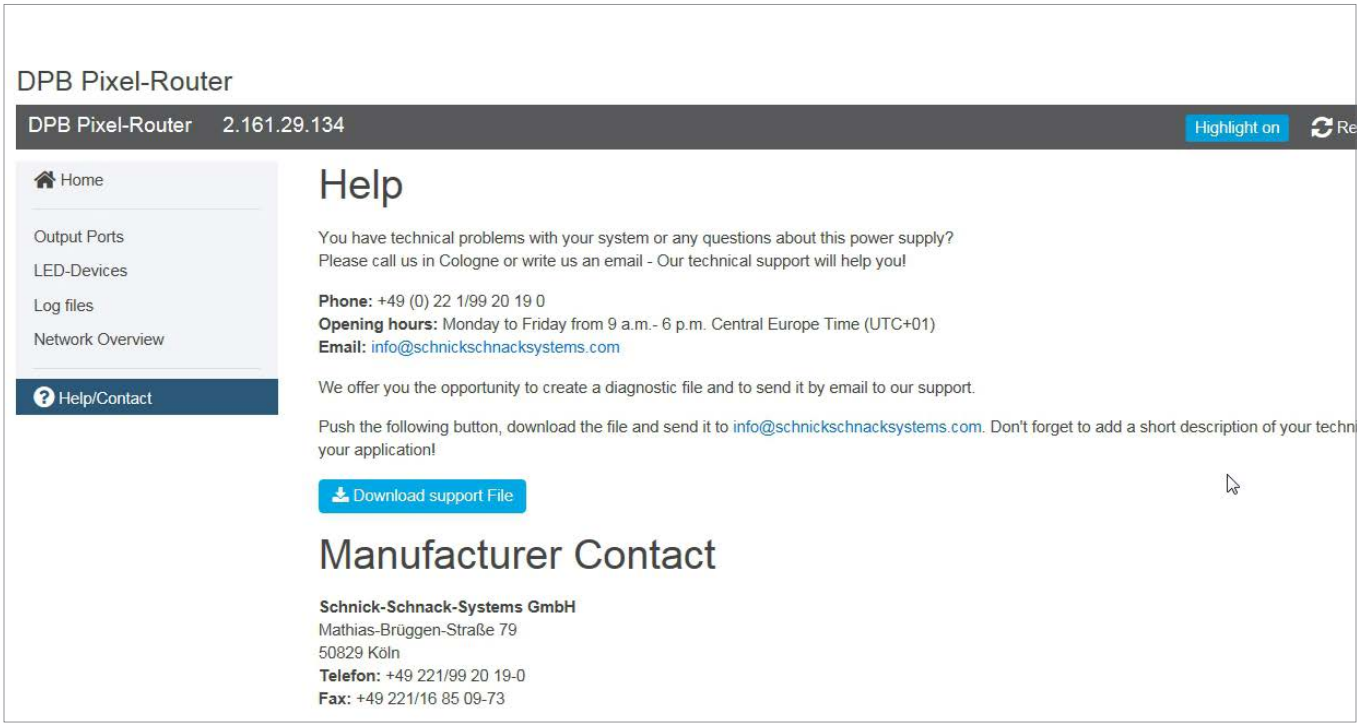
Network Overview



This page clearly lists all devices that can be found in the same network. Clicking on the the IP address takes you to the website of the respective device.

The list can be sorted by clicking on the respective column heading, for example, according to IP address or Short-Name.

Help/Contact



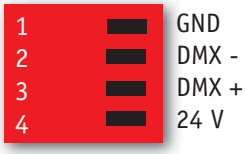
Log files to be used for error analysis can be downloaded with the "Download Support File" button.

Technical Data

Dimensions	160 × 23 × 80 mm (W× H × D)
Operating voltage	DC 24V
Power consumption	24V, 12A
Protocol	DPB, DMX 512 A-1990 USITT
Network input	RJ45 socket with integrated transformer
Network protocol	Art-Net, Schnicknet, sACN (ANSII)
LED Outputs 1-4	System connector red
Weight	0,30kg

Pin assignment

PCB Cable Schnick-Schnack-Systems



Umrechnungstabelle Art-Net™-Universen

Art-Net™ Standard (Hexadecimal Numbering)		**Schnick-Schnack-Systems (Decimal Numbering)**	**MA-Lighting Numbering**
Subnet	Universe		
0	0	0	1
0	1	1	2
0	2	2	3
0	3	3	4
0	4	4	5
0	5	5	6
0	6	6	7
0	7	7	8
0	8	8	9
0	9	9	10
0	A	10	11
0	B	11	12
0	C	12	13
0	D	13	14
0	E	14	15
0	F	15	16
1	0	16	17
1	1	17	18
1	2	18	19
1	3	19	20
1	4	20	21
1	5	21	22
1	6	22	23
1	7	23	24
1	8	24	25
1	9	25	26
1	A	26	27
1	B	27	28
1	C	28	29
1	D	29	30
1	E	30	31
1	F	31	32
2	0	32	33
2	1	33	34
2	2	34	35
2	3	35	36
2	4	36	37
2	5	37	38
2	6	38	39

Art-Net™ Standard (Hexadecimal Numbering)		**Schnick-Schnack-Systems (Decimal Numbering)**	**MA-Lighting Numbering**
Subnet	Universe		
2	7	39	40
2	8	40	41
2	9	41	42
2	A	42	43
2	B	43	44
2	C	44	45
2	D	45	46
2	E	46	47
2	F	47	48
3	0	48	49
3	1	49	50
3	2	50	51
3	3	51	52
3	4	52	53
3	5	53	54
3	6	54	55
3	7	55	56
3	8	56	57
3	9	57	58
3	A	58	59
3	B	59	60
3	C	60	61
3	D	61	62
3	E	62	63
3	F	63	64
4	0	64	65
4	1	65	66
4	2	66	67
4	3	67	68
4	4	68	69
4	5	69	70
4	6	70	71
4	7	71	72
4	8	72	73
4	9	73	74
4	A	74	75
4	B	75	76
4	C	76	77
4	D	77	78

Art-Net™ Standard (Hexadecimal Numbering)		**Schnick-Schnack-Systems (Decimal Numbering)**	**MA-Lighting Numbering**
Subnet	Universe		
4	E	78	79
4	F	79	80
5	0	80	81
5	1	81	82
5	2	82	83
5	3	83	84
5	4	84	85
5	5	85	86
5	6	86	87
5	7	87	88
5	8	88	89
5	9	89	90
5	A	90	91
5	B	91	92
5	C	92	93
5	D	93	94
5	E	94	95
5	F	95	96
6	0	96	97
6	1	97	98
6	2	98	99
6	3	99	100
6	4	100	101
6	5	101	102
6	6	102	103
6	7	103	104
6	8	104	105
6	9	105	106
6	A	106	107
6	B	107	108
6	C	108	109
6	D	109	110
6	E	110	111
6	F	111	112
7	0	112	113
7	1	113	114
7	2	114	115
7	3	115	116
7	4	116	117

Art-Net™ Standard (Hexadecimal Numbering)		**Schnick-Schnack-Systems (Decimal Numbering)**	**MA-Lighting Numbering**
Subnet	Universe		
7	5	117	118
7	6	118	119
7	7	119	120
7	8	120	121
7	9	121	122
7	A	122	123
7	B	123	124
7	C	124	125
7	D	125	126
7	E	126	127
7	F	127	128
8	0	128	129
8	1	129	130
8	2	130	131
8	3	131	132
8	4	132	133
8	5	133	134
8	6	134	135
8	7	135	136
8	8	136	137
8	9	137	138
8	A	138	139
8	B	139	140
8	C	140	141
8	D	141	142
8	E	142	143
8	F	143	144
9	0	144	145
9	1	145	146
9	2	146	147
9	3	147	148
9	4	148	149
9	5	149	150
9	6	150	151
9	7	151	152
9	8	152	153
9	9	153	154
9	A	154	155
9	B	155	156

Art-Net™ Standard (Hexadecimal Numbering)		Schnick-Schnack-Systems (Decimal Numbering)	MA-Lighting Numbering
Subnet	Universe		
9	C	156	157
9	D	157	158
9	E	158	159
9	F	159	160
A	0	160	161
A	1	161	162
A	2	162	163
A	3	163	164
A	4	164	165
A	5	165	166
A	6	166	167
A	7	167	168
A	8	168	169
A	9	169	170
A	A	170	171
A	B	171	172
A	C	172	173
A	D	173	174
A	E	174	175
A	F	175	176
B	0	176	177
B	1	177	178
B	2	178	179
B	3	179	180
B	4	180	181
B	5	181	182
B	6	182	183
B	7	183	184
B	8	184	185
B	9	185	186
B	A	186	187
B	B	187	188
B	C	188	189
B	D	189	190
B	E	190	191
B	F	191	192
C	0	192	193
C	1	193	194
C	2	194	195

Art-Net™ Standard (Hexadecimal Numbering)		**Schnick-Schnack-Systems (Decimal Numbering)**	**MA-Lighting Numbering**
Subnet	Universe		
C	3	195	196
C	4	196	197
C	5	197	198
C	6	198	199
C	7	199	200
C	8	200	201
C	9	201	202
C	A	202	203
C	B	203	204
C	C	204	205
C	D	205	206
C	E	206	207
C	F	207	208
D	0	208	209
D	1	209	210
D	2	210	211
D	3	211	212
D	4	212	213
D	5	213	214
D	6	214	215
D	7	215	216
D	8	216	217
D	9	217	218
D	A	218	219
D	B	219	220
D	C	220	221
D	D	221	222
D	E	222	223
D	F	223	224
E	0	224	225
E	1	225	226
E	2	226	227
E	3	227	228
E	4	228	229
E	5	229	230
E	6	230	231
E	7	231	232
E	8	232	233
E	9	233	234

Art-Net™ Standard (Hexadecimal Numbering)		**Schnick-Schnack-Systems (Decimal Numbering)**	**MA-Lighting Numbering**
Subnet	Universe		
E	A	234	235
E	B	235	236
E	C	236	237
E	D	237	238
E	E	238	239
E	F	239	240
F	0	240	241
F	1	241	242
F	2	242	243
F	3	243	244
F	4	244	245
F	5	245	246
F	6	246	247
F	7	247	248
F	8	248	249
F	9	249	250
F	A	250	251
F	B	251	252
F	C	252	253
F	D	253	254
F	E	254	255
F	F	255	256

Why Schnick Schnack Systems?

As installation times become increasingly shorter the complexity of systems simultaneously increases as do the requirements of customers.

We are a supplier who delivers high-quality reliable systems – under tight deadline constraints that are not only quick to install but also simple to operate and service.

Schnick-Schnack-Systems GmbH

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