

DMX protocol

Robin Square - DMX protocol						
Version: 1.2 Mode 1-Basic, Mode 2 -Advanced, Mode 3 -Full RGB						
Mode/channel			DMX Value	Function		Type of control
1	2	3				
1	1	1		Pan (8 bit)		
			0 - 255	Pan movement by 540° (360°)		proportional
2	2	2		Pan Fine (16 bit)		
			0 - 255	Fine control of pan movement		proportional
3	3	3		Tilt (8 bit)		
			0 - 255	Tilt movement by 360°		proportional
4	4	4		Tilt fine (16 bit)		
			0 - 255	Fine control of tilt movement		proportional
5	5	5		Pan control		
			0	Pan range 540°, shortcut Off		step
			1	Pan range 360°, shortcut On		step
			2-127	No function		
			128-189	Continuous rotation fast -> slow , Forwards		proportional
			190-193	Stop rotation		step
			194-255	Continuous rotation slow -> fast , Backwards		proportional
6	6	6		Tilt control		
			0	Tilt range 360°, Shortcut Off		step
			1	Tilt range 360°, Shortcut On		step
			2-127	No function		
			128-189	Continuous rotation fast -> slow , Forwards		proportional
			190-193	Stop rotation		step
			194-255	Continuous rotation slow -> fast , Backwards		proportional
7	7	7		Pan/Tilt speed , Pan/Tilt time		
			0	Max. speed (tracking mode)		step
				Pan/Tilt speed		
			1 - 255	Speed from max. to min. (vector mode)		proportional
				Pan/Tilt time		
			1 - 255	Time from 0.1 s to 25.5 sec.		proportional
8	8	8		Power/Special functions		
			0 -9	Reserved		
				<i>To activate following functions, stop in DMX value for at least 3 s and shutter must be closed at least 3 sec. („Shutter,Strobe” channel 23/41 must be at range: 0-31 DMX). Corresponding menu items are temporarily overridden).</i>		
			10-14	DMX input: Wired DMX		step
			15-19	DMX input: Wireless DMX *		step
				* function is active only 10 seconds after switching the fixture on		
			20-24	Graphic display ON		step
			25-29	Graphic display OFF		step
			30-34	RGBW colour mixing mode		step
			35-39	CMY colour mixing mode		step
			40-44	Pan/Tilt speed mode		step
			45 - 49	Pan/Tilt time mode		step
			50 -54	Blackout while pan/tilt moving		step
			55 -59	Disabled blackout while pan/tilt moving		step
			60 - 64	Dimmer curve-square law		step
			65 - 69	Dimmer curve-linear		step
			70 - 74	Fans mode: Auto		step

DMX protocol

Mode/channel			DMX Value	Function	Type of control
1	2	3			
			75 - 79	Fans mode: High	step
			80-84	White point 8000K ON	step
			85-89	White point 8000K OFF	step
			90 -109	Reserved	
			110-114	Kling-Net On	step
			115-119	Kling-Net Off	step
			120-129	Reserved	
				<i>To activate following functions, stop in DMX value for at least 3 seconds.</i>	
			130 - 139	Fixture reset (except pan/tilt)	
			140 - 149	Pan/Tilt reset	step
			150 - 159	Zoom reset	step
			160 - 169	Effects reset	step
			170 - 199	Reserved	step
			200 - 209	Total fixture reset	step
			210 - 255	Reserved	
9	9	9		Virtual colour wheel	
			0	No function	step
			1-2	White 2700 K	step
			3	White 2700 K (Halogen lamp mode**)	step
			4-5	White 3200 K	step
			6	White 3200 K (Halogen lamp mode**)	step
			7-9	White 4200 K	step
			10-12	White 5600 K	step
			13-15	White 8000 K	step
			16	Blue (Blue=full, Red+Green+White=0)	step
			17-55	Red=0, Green->up, Blue =full, White=0	proportional
			56	Light Blue (Red=0, Green=full, Blue =full, White=0)	step
			57 - 95	Red=0, Green=full, Blue->down, White=0	proportional
			96	Green (Red=0, Green=full, Blue =0, White=0)	step
			97 – 134	Red->up, Green=full, Blue=0, White=0	proportional
			135	Yellow (Red=full, Green=full, Blue=0, White=0)	step
			136 - 174	Red=full, Green->down, Blue=0, White=0	proportional
			175	Red(Red=full, Green=0, Blue=0, White=0)	step
			176 -214	Red=full, Green=0, Blue->up, White=0	proportional
			215	Magenta (Red=full, Green=0, Blue=full, White=0)	step
			216 - 246	Red -> down, Green=0, Blue=full, White=0	proportional
			247	Blue (Red=0, Green=0, Blue=full, White=0)	step
			248-251	Rainbow effect (with fade time)from slow-> fast	proportional
			252-255	Rainbow effect(without fade time) from slow-> fast	proportional
10	10	10		Red/Cyan (8 bit)- all pixels***	
			0 - 255	Red or Cyan colour saturation control - coarse (0-100%)	proportional
*	11	11		Red/Cyan (16bit)- all pixels***	
			0 - 255	Red or Cyan colour saturation control - fine	proportional
11	12	12		Green/Magenta (8 bit) - all pixels ***	
			0 - 255	Green or Magenta colour saturation control - coarse (0-100%)	proportional
*	13	13		Green/Magenta (16bit) - all pixels***	
			0 - 255	Green or Magenta colour saturation control - fine	proportional
12	14	14		Blue/Yellow (8 bit) - all pixels ***	
			0 - 255	Blue or Yellow colour saturation control - coarse (0-100%)	proportional

DMX protocol

Mode/channel			DMX Value	Function	Type of control
1	2	3			
*	15	15		Blue/ Yellow (16bit) -all pixels***	
			0 - 255	Blue or Yellow colour saturation control - fine	proportional
13	16	16		White (8 bit) - all pixels	
				<i>If RGBW mode is selected:</i>	
			0-255	White colour saturation control - coarse (0-100%)	proportional
				<i>If CMY mode is selected:</i>	
			0 - 255	No function	
*	17	17		White (16 bit) - all pixels	
			0 - 255	White colour saturation control - fine (RGBW mode only)	proportional
14	18	18		CTC	
				<i>If function "White Point 8000K" is ON</i>	
			0-255	Col. temperature correction from 8000K to 2700K -for whites only (0=8000K, 64=5600K, 128=4200K, 192=3200K, 0=2700K) To get colour temperatures stated above, RGBW channels have to be set at the same value (e.g. 255DMX) or RGB=0 and White channel > 0 DMX	proportional
				<i>If function "White Point 8000K" is OFF</i>	
			0-255	Colour temperature correction for from cool col. to warm col.	proportional
15	19	19		Colour Mix control	
				<i>The channel defines relation between color channels</i>	
				<i>Global = Global Colours (RGBW, CTO, Virtual Color Wheel)</i>	
				<i>Pixel = Pixel Colors (RGB individual pixels or Kling-Net)</i>	
			0-9	Global colors (Global has priority)	
			10-19	Maximum mode (highest values have priority)	step
			20-29	Minimum mode (lowest values have priority)	step
			30-39	Multiply mode (multiply Global and Pixel)	step
			40-49	Addition mode (Global + Pixel)	step
			50-59	Subtraction mode (Global – Pixel)	step
			60-69	Inverted Subtraction mode (Pixel – Global)	step
			70-79	Coloured background	step
			80-127	Reserved	
			128-254	Crossfade (crossfade between Global and Pixel)	proportional
			255	Pixel colors (Pixel has priority)	step
16	20	20		Pixel effects	
			0-2	No function	
			3-4	Effect 1	step
			5-6	Effect 2	step
			:	:	:
			171-172	Effect 85	step
			173-255	Reserved	
17	21	21		Pixel effects speed	
			0-127	Speed from min. to max.	proportional
			128-255	Speed from max. to min. (opposite direction)	proportional
18	22	22		Pixel effects fade	
			0	Without fade time	step
			1-255	Fade time from min. to max.	proportional
*	23	23		MBE 1 (Multiple Beam Engine 1)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional

DMX protocol

Mode/channel			DMX Value	Function	Type of control
1	2	3			
*	24	24		MBE 2 (Multiple Beam Engine 2)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	25	25		MBE 3 (Multiple Beam Engine 3)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	26	26		MBE 4 (Multiple Beam Engine 4)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	27	27		MBE 5 (Multiple Beam Engine 5)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	28	28		MBE 6 (Multiple Beam Engine 6)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	29	29		MBE 7 (Multiple Beam Engine 7)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	30	30		MBE 8 (Multiple Beam Engine 8)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	31	31		MBE 9 (Multiple Beam Engine 9)	
			0	Open position (without Effect)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (Effect inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
19	32	32		MBE effects	
			0-2	Open position (without Effect)	step
			3-4	All Effects together (synchronous rotation - set rotation at channel 20/33)	step
			5-6	Effect 1	step
			7-8	Effect 2	step
			9-10	Effect 3	step
			11-12	Effect 4	step
			13-14	Effect 5	step
			15-16	Effect 6	step
			17-18	Effect 7	step

DMX protocol

Mode/channel			DMX Value	Function	Type of control
1	2	3			
			19-20	Effect 8	step
			21-22	Effect 9	step
			23-24	Effect 10	step
			25-255	Reserved	
20	33	33		MBE effect rotation	
			0	No rotation (without MBEs)	step
			1 - 127	Forwards rotation from fast to slow	proportional
			128	No rotation (MBEs inserted)	step
			129-255	Backwards rotation from slow to fast	proportional
*	34	34		Zoom -zone 1	
			0 - 255	Zoom from max. to min.beam angle	proportional
*	35	35		Zoom -zone 2	
			0 - 255	Zoom from max. to min.beam angle	proportional
*	36	36		Zoom -zone 3	
			0 - 255	Zoom from max. to min.beam angle	proportional
*	37	37		Zoom -zone 4	
			0 - 255	Zoom from max. to min.beam angle	proportional
*	38	38		Zoom -zone 5	
			0 - 255	Zoom from max. to min.beam angle	proportional
21	39	39		Zoom effects	
			0-2	No function	
			3-4	All zones together (synchronous movement - set zoom at channel 22/40)	step
			5-6	Effect 1	step
			7-8	Effect 2	step
			9-10	Effect 3	step
			11-12	Effect 4	step
			13-14	Effect 5	step
			15-255	Reserved	
22	40	40		Zoom effects speed	
				<i>If " All zones together" is selected at channel Zoom effects:</i>	
			0-255	Zoom from max. to min.beam angle	proportional
				<i>If " Effect 1-Effect 5" is selected at channel Zoom effects:</i>	
			0-255	Speed from min. to max.	proportional
23	41	41		Shutter/ strobe	
			0 - 31	Shutter closed	step
			32 - 63	Shutter open	step
			64 - 95	Strobe-effect from slow to fast	proportional
			96 - 127	Shutter open	step
			128 - 143	Opening pulse in sequences from slow to fast	proportional
			144 - 159	Closing pulse in sequences from fast to slow	proportional
			160 - 191	Shutter open	step
			192 - 223	Random strobe-effect from slow to fast	proportional
			224 - 255	Shutter open	step
24	42	42		Dimmer intensity (8 bit)	
			0 - 255	Dimmer intensity from 0% to 100%	proportional
*	43	43		Dimmer intensity - fine (16 bit)	
			0 - 255	Fine dimming	proportional
*	*	44		Red pixel 1	
			0-255	Red LED saturation control (0-100%)	proportional
*	*	45		Green pixel 1	

DMX protocol

Mode/channel			DMX Value	Function	Type of control
1	2	3			
			0-255	Green LED saturation control (0-100%)	proportional
*	*	46		Blue pixel 1	
			0-255	Blue LED saturation control (0-100%)	proportional
				:	
*	*	116		Red pixel 25	
			0-255	Red LED saturation control (0-100%)	proportional
*	*	117		Green pixel 25	
			0-255	Green LED saturation control (0-100%)	proportional
*	*	118		Blue pixel 25	
			0-255	Blue LED saturation control (0-100%)	proportional
** In the Halogen lamp mode the Dimmer channel imitates behaviour of the halogen lamp during dimming					
*** Select RGB or CMY mixing mode on channel "Power/Special functions"					