

PARAMETER								
Index dec / hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
196 / 0xC4	Read / write	Uint	8 Bit		10	10 ... 90	Signal quality level	%
207 / 0xCF	Read	Uint	8 Bit		0 ... 100	Current signal quality	%	
202 / 0xCA	Read / write	Uint	8 Bit		0	0 ... 1	Process data profile	0 = switchig channels 1 = color values
Display								
224 / 0xE0	Read / write	Uint	8 Bit	1	1	0 ... 1	Screensaver	0 = off, 1 = on
	Read / write	Uint	8 Bit	2	1	0 ... 1	Rotate display	
Function Q All								
176 / 0xB0	Read / write	Uint	8 Bit	1	1	0 ... 2	PNP / NPN	0 = NPN 1 = PNP 2 = Auto Detect on Q1
				2	1 = 30 Hz	0 ... 6	Switching frequency	0 = 3 Hz 1 = 30 Hz 2 = 100 Hz 3 = 300 Hz 4 = 500 Hz 5 = 1500 Hz 6 = 3000 Hz
				3	Off	0 ... 1	Binary output	On / off. Enables logical combination of switching outputs
177 / 0xB1	Read / write	Uint	8 Bit		Color mode	0 ... 1	Detection mode	0 = color mode 1 = best fit mode
Q ₁ (physical) *								
96 / 0x60	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O. 1 = N.C.
				3	Output	0 ... 1	Function switching output	0 = disable 1 = output
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
			16 Bit	5	0	0 ... 65535	Counter	Switches only every nth cycle
				6	0.	0 ... 65535	On delay	In ms, adjustable in 1 ms
				7	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms
				8	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms
			8 Bit	9	0	0 ... 2	Not connected	0 = not connected 1 = combine with color C4 2 = exclude color C4
Q ₂ (physical) *								
97 / 0x61	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O., 1 = N.C.
				3	Output	0 ... 3	Function switching output	0 = disable 1 = output 3 = input (trigger)
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
			16 Bit	5	0	0 ... 65535	Counter	Switches only every nth cycle
				6	0	0 ... 65535	On delay	In ms, adjustable in 1 ms
				7	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms
				8	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms
			8 Bit	9	0	0 ... 2	Not connected	0 = not connected 1 = combine with color C5 2 = exclude color C5
Q ₃ (physical) *								
98 / 0x62	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O., 1 = N.C.
				3	Output	0 ... 2	Function switching output	0 = disable 1 = output 2 = input (keylock)
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
			16 Bit	5	0	0 ... 65535	Counter	Switches only every n th cycle
				6	0	0 ... 65535	On delay	In ms, adjustable in 1 ms
				7	0	0 ... 65535	Off delay	In ms, adjustable in 1 ms
				8	0	0 ... 65535	Impulse	In ms, adjustable in 1 ms
			8 Bit	9	0	0 ... 2	Not connected	0 = not connected 1 = combine with color C6 2 = exclude color C6

PARAMETER								
Index dec / hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
Q ₄ (virtual) *								
99 / 0x63	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O., 1 = N.C.
				3	Output	0 ... 2	Function switching output	0 = disable 1 = output
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
Q ₅ (virtual) *								
100 / 0x64	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O., 1 = N.C.
				3	Output	0 ... 1	Function switching output	0 = disable 1 = output
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
Q ₆ (virtual)								
101 / 0x65	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O., 1 = N.C.
				3	Output	0 ... 1	Function switching output	0 = disable 1 = output
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
Q ₇ (virtual)								
102 / 0x66	Read / write	Uint	8 Bit	1	3	0 ... 8	Tolerance	0 = finest tolerance level 1 = 2 nd tolerance level 2 = 3 rd tolerance level ... 8 = roughest tolerance level
				2	N.O.	0 ... 1	N.O. / N.C.	0 = N.O., 1 = N.C.
				3	Output	0 ... 1	Function switching output	0 = disable 1 = output
				4	On	0 ... 1	Energy evaluation off / on	0 = off, 1 = on
Q ₁ color settings								
128 / 0x80	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	
Q ₂ color settings								
129 / 0x81	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	
Q ₃ color settings								
130 / 0x82	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	
Q ₄ color settings								
131 / 0x83	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	
Q ₅ color settings								
132 / 0x84	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	

PARAMETER								
Index dec / hex	Access	Data type	Length	Subindex	Default value	Range	Description	Comment
Q ₆ color settings								
133 / 0x85	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	
Q ₇ color settings								
134 / 0x86	Read / write	Uint	16 Bit	1	1365 (33.33 %)	0 ... 4095	Ratio red	Ratio blue = 4095 - red - green.
				2	1365 (33.33 %)	0 ... 4095	Ratio green	Ratio blue = 4095 - red - green.
				3	4095 (100 %)	0 ... 4095	Energy	
				4		0 ... 4095	Red tolerance	
				5		0 ... 4095	Green tolerance	
				6		0 ... 4095	Energy tolerance	
* Smart functions (counter, delays, impulse) only work in the color mode (CM) while having no effect in best-fit mode (BF)								

SYSTEM COMMANDS								
Index dec / hex	Access	Data type	Length	Function dec / hex	Range	Description	Comment	
2 / 0x02	Read / write	Uint	8 Bit	64 / 0x40		Teach apply	Adopt teach values on sensor	
				65 / 0x41		Single value teach	Teaches the color seen at this moment	
				71 / 0x47		Color scan - start	Detects all colors taught during the scan	
				72 / 0x48		Color scan - stop		
				79 / 0x4F		Teach cancel		
				160 / 0xA0		Emitter off		
				161 / 0xA1		Emitter on		
				162 / 0xA2		Reset switching channel	Reset of current switching channel	
				169 / 0xA9		Trigger Q ₂ Input	To test function set Q ₂ as trigger input	
				170 / 0xAA		Trigger Q ₂ high		
				171 / 0xAB		Trigger Q ₂ low		
				175 / 0xAF		Detect sensor	1x activated - sensor flashes 60 s 2x activated - permanent flashing 3x activated - stop permanent flashing	
				128 / 0x80		Reset sensor		
130 / 0x82		Factory setting						

EVENTS						
Event	Events ON/OFF	Status value	Warning		Description	Comment
20480 / 0x5000	3	4	Error		Device hardware fault	
20497 / 0x5011	4	4	Error		Non-volatile memory loss	
65425 / 0xFF91		0	Notice		Data storage - upload request	
16384 / 0x4000	0	4	Error		Temperature fault	