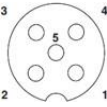
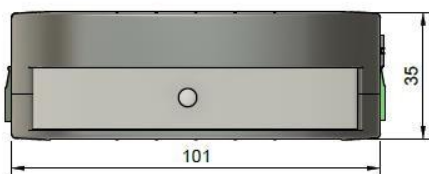


LSS-2404 Specifications		Rev 2
Description	The LSS-2404 Light Sequencing Switch is designed to switch external +24 VDC power for up to 4-channels of lights. Upon receiving an external system trigger, the LSS-2404 executes a preprogrammed sequence of lighting on the 4-channels and outputs a correlated camera trigger, automatically timing external camera exposures to the programmed lighting sequence.	
Number of Lighting Channels	4	
Power Supply Requirements	24 VDC nominal at 5A (minimum)	
Input Voltage	10.8 – 28.8 VDC (absolute range)	
Power Consumption	5W maximum; Excluding attached lighting and dependent on configuration	
Trigger Input	Voltage mode: Accepts 3.3 – 24 VDC logic level voltage with adjustable trigger level Switched Ground Mode: Supports opto-isolators or closed contacts via direct connection without external components	
Trigger Input Level	Software programmable 1 - 24 VDC trigger level in 100 mV increments Default = 9.6 V threshold to work with 12 V or 24 V trigger logic	
Trigger Out (to camera)	Selectable to 5V, 12V, or 24V via software. Voltage level tolerance +/- 15%. Maximum limited to ~93% Vin	
Trigger Functions	Trigger Event - Selectable: Single trigger all, trigger individual sequences, or trigger every frame Trigger Delay - Selectable 2 μS to 65 sec trigger delay for synchronization with external processes Invert Function - Trigger I/O logic can be inverted by software	
Power + Trigger Connections	Pluggable screw terminal blocks with recessed connections. M3 set screw, 12 - 24 AWG Mating connector: Order DigiKey P/N ED2779-ND (Power), ED2781-ND (I/O)	
Lighting	Output connector: M12-5 female 4 lighting channels; switched ground (sinking) Pinout: Pin1 - +24 Vin Common Pin2 - CH1- Pin3 - CH2- Pin4 - CH3- Pin5 - CH4-	M12-5 Pin Assignment 
Maximum Current Rating	1 A/ch x 4-channels; 4 A maximum all channels	
Channel Output Voltage	Unregulated; >98% of supply voltage	
Channel Output Mode	Current sinking only	
Communication Port	RJ45 connector. 100BaseT Ethernet. TCP/IP protocol. Control via Web-based GUI or TCP/IP command set.	
Indicator Functions	Power On Trigger Activity Ethernet – network connection Ethernet – network activity/fault	General Fault Fault (see manual)
Firmware	User upgradeable via Web-based GUI (included)	
Sequence Timing	User programmable via Web-based GUI (included) and TCP/IP command set Default: Photometric Stereo (PMS) 4 frame sequence (For use with Cognex SurfaceFX) 40fps operation, 25mS frame, 25mS Strobe Width, 15mS camera trigger	
Timing Resolution	Maximum Trigger rate: 10,000 fps (100 μS) Minimum output signal width: 100 μS Maximum delay trigger to start of first frame: 50 μS Timing resolution: 1 μS Channel skew + jitter: <= 10 μS	
User Parameters		
-Frame Time	100 μS – 2000 S; Time for each frame in a sequence	
-Strobe Width	100 μS - 2000 S; Independently selectable CH1 - CH4. Must be < frame time.	
-Camera Trigger Width	100 μS - 2000 S; Must be < frame time.	
-Framing Mode	ON/ OFF; Framing Mode adds reference frames, with all channels on, at the start and end of a sequence (2 frames total)	
-Trigger Type	Triggered One-shot (default), Triggered Continuous, Free-run (continuous non-triggered)	
-Trigger Delay	2 μS - 65 mS @ 1μS resolution or 2 mS - 16 sec @ 1mS resolution (optional)	
Program Limits	<ul style="list-style-type: none"> • 1 pre-programmed series • 10 sequences per series • 12 frames per sequence • 2 billion sequence repeats • 4 stored configurations in flash memory • Unlimited configurations (via disk files) 	
Additional Software Features	<ul style="list-style-type: none"> • Program configuration via web browser (Firefox version 56 or later recommended) • Firmware field upgradeable 	

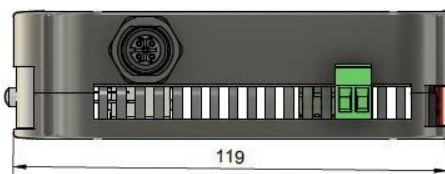
Operating Temperature Range	0 to 40 C
Storage Temperature Range	-10 to 50 C
Operating Humidity	10 to 80% Non-condensing
Cooling	Free air cooling
Package Type	DIN module 1.5X (representative image below)
Dimensions	1.4 x 4.0 x 4.7 inches / 35 x 101 x 119 mm L x W x D
Weight	4.8 oz / 135 g
Conformance Standards	CE, FCC, RoHS, REACH, Conflict Materials compliant
Accessories + Options	<p>Breakout Cables (to attach multiple unsegmented lights) FCB-F-0.3-XS2 (4-branch cable, 300mm length, M12-5 connectors) FCB-F-0.3-XS2-SM3 (4-branch cable, 300mm length, SM connectors) FCB-F-0.9-XS2 (4-branch cable, 900mm length, M12-5 connectors) FCB-F-0.9-XS2-SM3 (4-branch cable, 900mm length, SM connectors)</p> <p>M12-5 Extension Cables (to increase distance from LSS to light or to lengthen branches) FCB-1-0.5SQM12-5M5F (1m) FCB-3-0.5SQM12-5M5F (3m) FCB-5-0.5SQM12-5M5F (5m) FCB-9-0.5SQM12-5M5F (9m)</p> <p>SM Extension Cables (to lengthen branches when using SM connectors) FCB-1 (1m) FCB-2 (2m) FCB-3 (3m) FCB-5 (5m)</p>
Compatible Products	HPR2-250SW-DV04M12-5 4 Segment Ring Light 250mm HPR2-150SW-DV04M12-5 4 Segment Ring Light 150mm HPR2-75SW-DV04M12-5 4 Segment Ring Light 75mm All CCS Standard Series BK-HPR2-150 Integrated Ring Light Bracket + Camera Mount (special order) 4 Bar Light Bracket (various sizes, available soon)

Product Package:

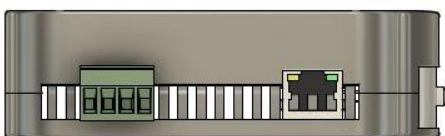
Front View



Bottom View



Top View



Overall View

