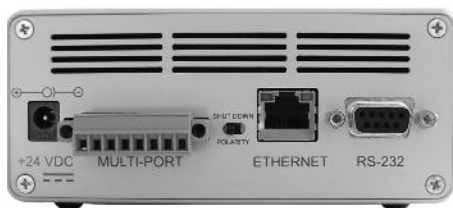




LLS - LLS Light Source, A20960

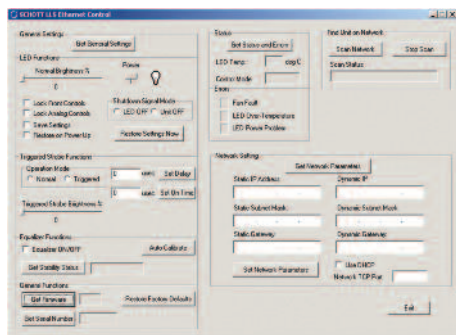


LLS - LLS Light Source, A20960. Rear View shows (from left to right): universal power input, multi-port input, Ethernet input, RS-232 input

### Hybrid Solution Pairs LEDs with Fiber Optics

The LLS offers users 4 different modes of control interfaces - a continuous intensity control knob, Ethernet, RS-232 or analog 0-5 Volt.

The auto-sensing inputs eliminate the need to switch manually between the modes. The unit also features a user control lock-out via the Ethernet and RS-232 SCHOTT supplied software.



Screen shot of the supplied Ethernet software

## LLS - LED Light Source

*Longer Life, Lower Energy Consumption, Higher Performance*

### Standard Features

- Long life-time (50,000 hours)
- Fits all COLDVision light guides
- Fast triggered strobe capabilities (maximum 1 kHz pulse rate, maximum pulse width 1 msec, duty 1/10)
- Internal light feedback provides stabilized light output for the most demanding machine vision applications
- Low power consumption (less than 25 watts)
- Improved immunity to vibration and shock
- Small footprint and worldwide universally compatible power supply with interchangeable plugs
- RoHS compliant
- CE Approved

### Characteristics

|                           |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| Dimensions                | Length 197 mm (7.75 in)<br>Width 129 mm (5.08 in)<br>Height 63 mm (2.48 in) |
| Weight                    | 862 grms (1.9 lbs)                                                          |
| Operating Temperature     | 5° C (41° F) to 40° C (104° F)                                              |
| Color Temperature - White | 6000K                                                                       |

### SCHOTT LLS Technical Information

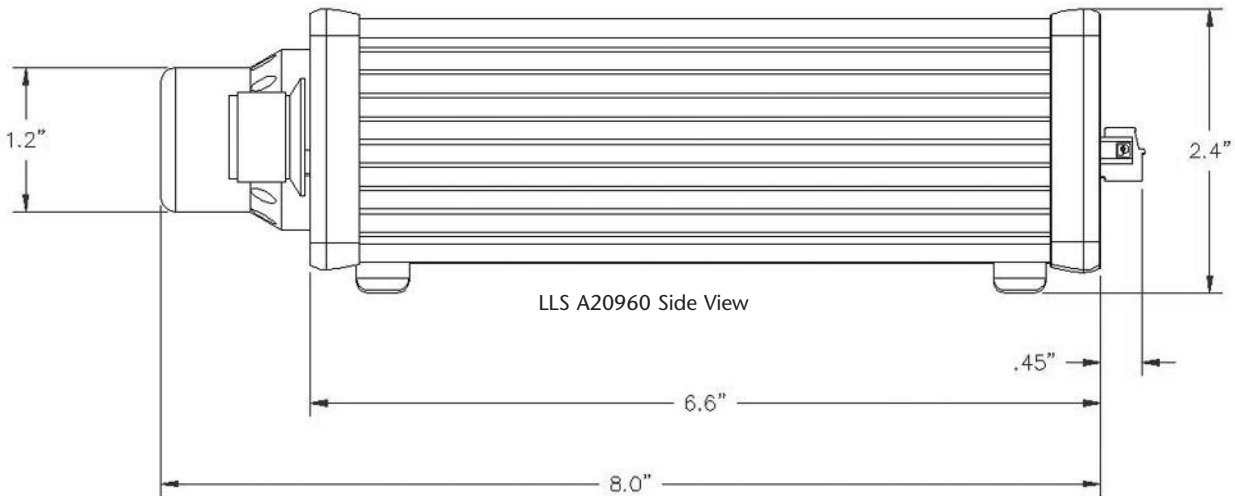
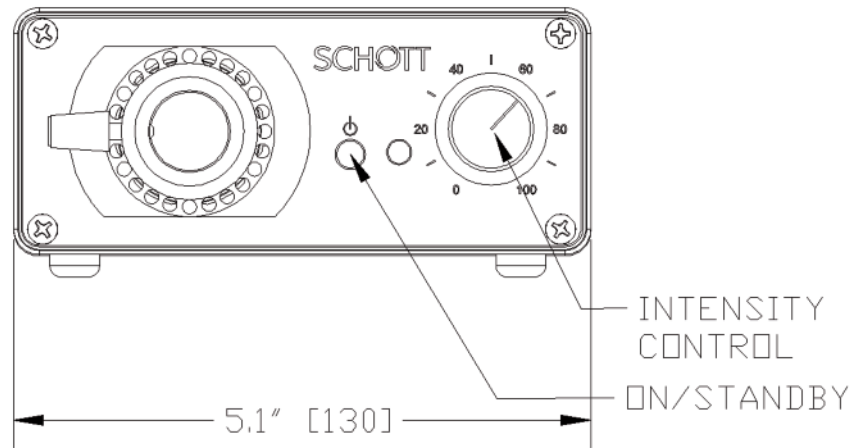
| Part No. | Color            | Wavelength (nm)<br>(+/- bandwidth 20 nm) | Light Output |
|----------|------------------|------------------------------------------|--------------|
| A20960   | Red              | 625                                      | 120 lm       |
| A20960.1 | White            | ---                                      | 275 lm       |
| A20960.2 | Green            | 525                                      | 100 lm       |
| A20960.4 | Blue             | 470                                      | 40 lm        |
| A20955   | Mounting Bracket |                                          |              |

# LLS - LED Light Source

Dimensions in ( ) are in mm

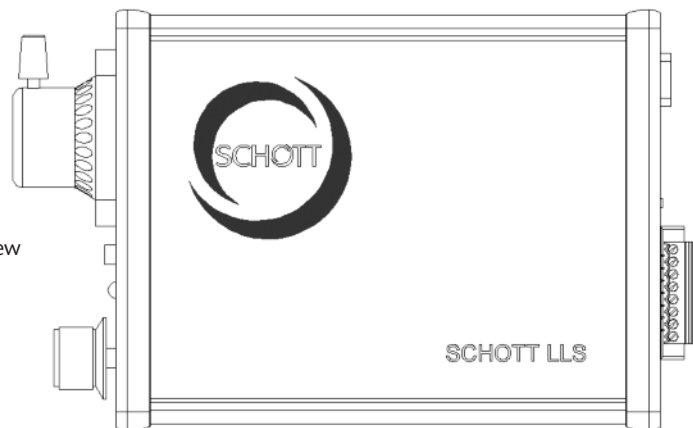
Product improvements may result in specification or feature changes without notice.

LLS A20960 Front View



LLS A20960 Side View

LLS A20960 Top View

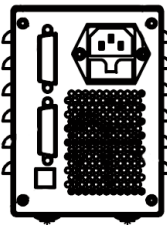


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LLS 2 - LLS Light Source



LLS 2 - LLS Light Source, Rear View shows (from left to right): universal power input, multi-port input, Ethernet input, RS-232 input

Making use of the fast progress in LED technology, SCHOTT offers its new LLS 2 LED light source for machine vision applications, outclassing conventional lighting techniques.

**NOTE:**

External control pin layout compatible with Moritex halogen light sources. Please follow standard safety procedures when operating the LLS 2 Light Source

## LLS 2 - LED Light Source

*Long Life, Low Energy Consumption, High Performance*

**Standard Features**

- Long life-time (more than 50,000 hours) (\*)
- Low power consumption: 35 watts (max.)
- Light output (\*\*): 175 klx at active diameter 8 mm
- Color temperature: 5,500 K
- Accepts light guides up to 13 mm
- External strobe capabilities: minimal pulse duration 200  $\mu$ s at 20% duty
- Voltage input: 90 VAC to 260 VAC (50/60 Hz)
- Optical output: optimized for 4 - 10 mm
- Uniformity of light spot: Gaussian like light distribution shape
- RoHS compliant
- CE Approved

| Characteristics       |                                                                              |
|-----------------------|------------------------------------------------------------------------------|
| Dimensions            | Length 240 mm (9.45 in)<br>Widths 85 mm (3.35 in)<br>Height 120 mm (4.72 in) |
| Weight                | 2,1 kg (4.62 lbs)                                                            |
| Operating Temperature | - 10° C (+ 14°F) to 40° C (104°F)<br>(humidity 20% to 90%)                   |
| Storage Temperature   | - 40° C (- 40°F) to + 80° C (+ 176°F)<br>(humidity 10% to 95%)               |
| Cooling Method        | Forced Air Cooling (fan)                                                     |
| Housing               | Powder painted steel                                                         |

| Control Characteristics             |                                                                                                                                                                       |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manual Control Interfaces (front)   | On / Off switch<br>Manual / remote switch<br>Brightness control<br>LED status indicator lights                                                                        |
| Electronic Control Interface (back) | Analog Input: 0 - 5 V (intensity)<br>Digital input (8 bit parallel) intensity, invertible logic                                                                       |
| For Remote Control                  | Remote light On / Off (invertible logic)<br>Error signal outputs: over - temperature, over-current. Galvanically insulated digital inputs and outputs (opto couplers) |

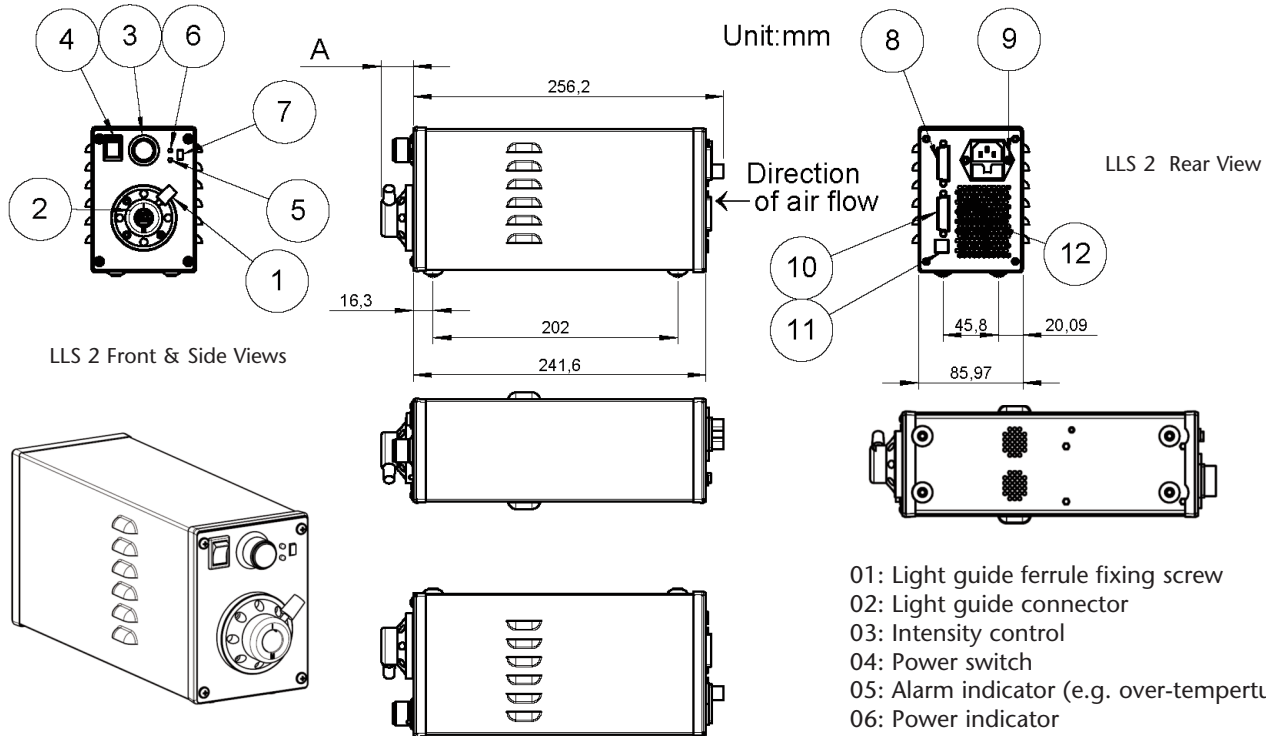
(\*): 70% drop of intensity according to LED supplier  
(\*\*): Measured after 1,100 mm long light guide at 50 mm distance



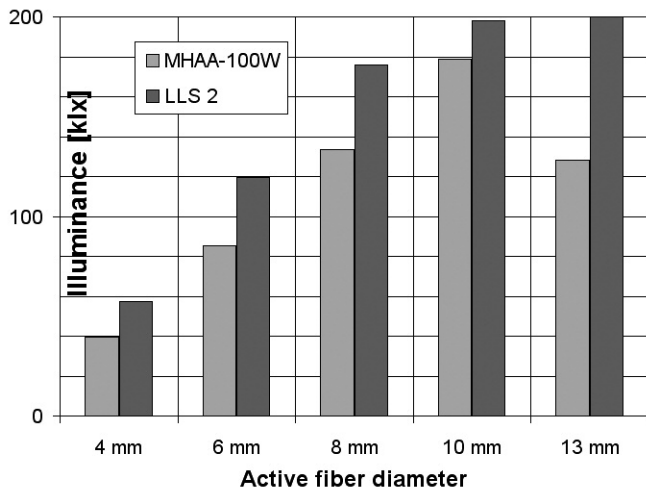
# LLS 2 - LED Light Source

Dimensions in ( ) are in mm

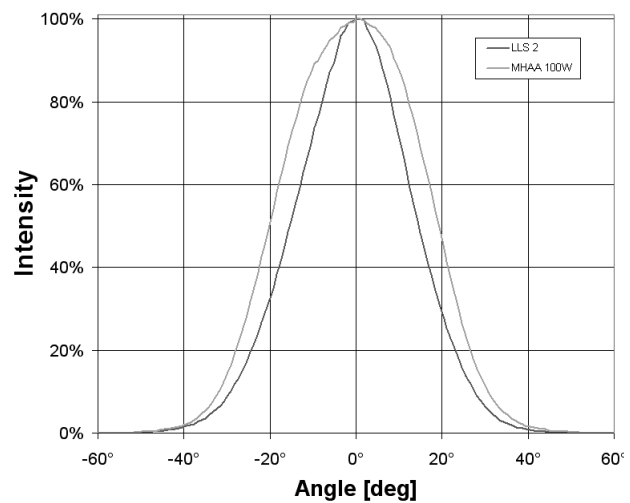
Product improvements may result in specification or feature changes without notice.



- 01: Light guide ferrule fixing screw
- 02: Light guide connector
- 03: Intensity control
- 04: Power switch
- 05: Alarm indicator (e.g. over-temperature)
- 06: Power indicator
- 07: Remote / manual switch
- 08: Analog interface
- 09: AC power supply inlet
- 10: Digital interface
- 11: Dip switches
- 12: Cooling air intake



Illuminance of LLS 2 and Halogen Light Source at 50 mm distance



Angular Light Distribution with 10 mm Light Guide

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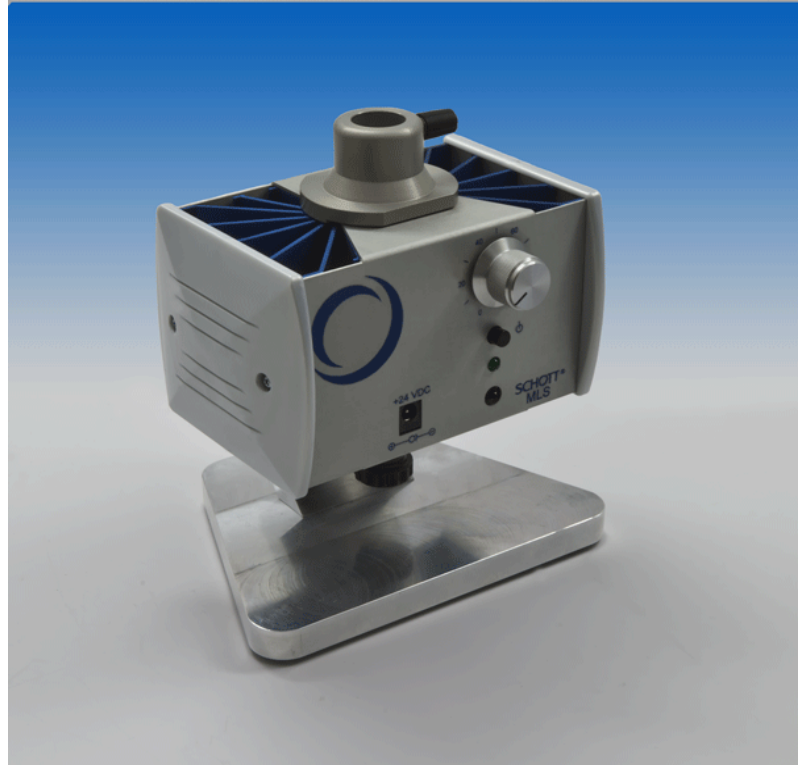
**NEW!**  
Designed for manual  
inspection applications!

# MLS – Microscopy LED Light Source

Longer Life, Lower Energy Consumption, Higher Performance, Compact Design

The SCHOTT MLS offers several advantages over other types of fiber optic light sources used in microscopy & static machine vision applications, including:

- Long-life of LED light engine
- Fan-less, vibration free operation
- Fits all COLDVision light guides
- Stable light output with minimal variation in color temperature
- Low power consumption (~18 watts)
- Small footprint and world-wide, universally compatible power supply with interchangeable plugs
- Optional light On/Off control via handheld remote or footswitch. Handheld remote also controls light output intensity.
- Mounting Options (sold separately):
  - Pedestal Mount
  - Post Mounts
- Temperature monitoring for protection of the LED light engine
- RoHS Compliant & CE Approved. ESD outlet connection.



## Characteristics

|                                        |                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------|
| Dimensions                             | Length: 102 mm (4 in)<br>Width: 140 mm (5.5 in)<br>Height : 117 mm (4.6 in) |
| Weight                                 | 0.8 kg (1.7 lbs)                                                            |
| Operating Temperature                  | 5° C (41° F) to 40° C (104° F)                                              |
| Color Temperature – White & Warm White | 6000 K / 3100 K                                                             |
| Power Consumption                      | ~ 18 Watts                                                                  |

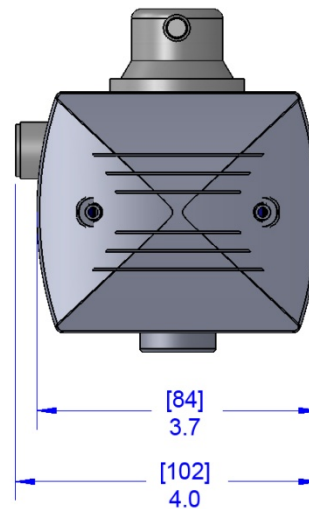
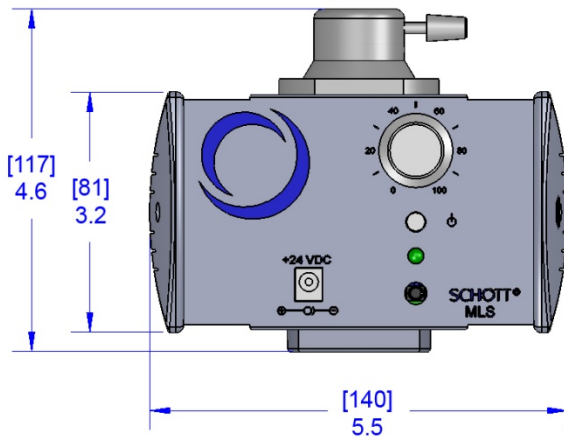
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## SCHOTT MLS Technical Information

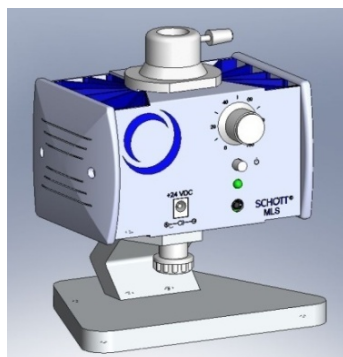
| Part Number | Color                                              | Light Output* |
|-------------|----------------------------------------------------|---------------|
| A20400/6000 | White – 6000 K                                     | 300 lm        |
| A20400/3100 | Warm White – 3100 K                                | 200 lm        |
| A20410      | Handheld Remote (On/Off, pulse, intensity control) |               |
| A20411      | Remote Footswitch (On/Off)                         |               |
| A20420      | Pedestal Mount                                     |               |

\*Light output specifications are measured with a 1 m long, 13 mm diameter bundle (A08051.40 bundle).  
The light output specification is the typical output and actual output may vary.

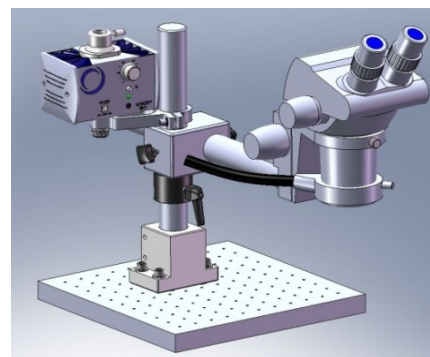
### Dimensions in inches and [mm]



### Mounting Options



Pedestal Mount



Adapter & KL200 LED Boom Stand Bracket

### For more information please contact:

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