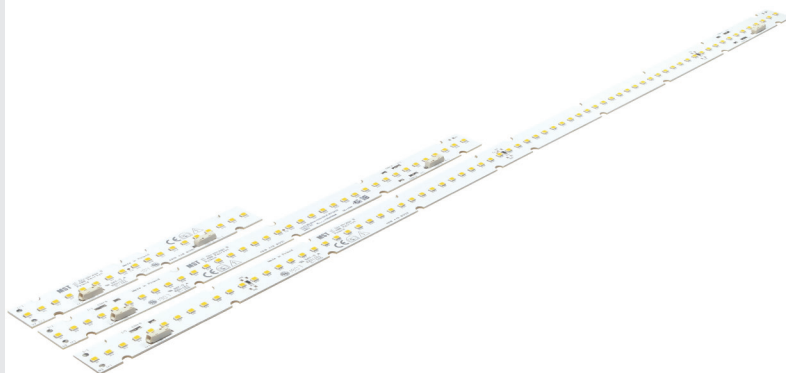


## Linear LED modules 1100lm/1ft 2C

### Product description

- Long life-time
- Re-workable push-in terminals enabling easy connection
- Compliance and approval : ENEC, CE
- Small colour tolerance (MacAdam3)
- Tolerance range for optical and electrical  $\pm 10\%$
- 2C- two connectors for series connection system, also recognized as a high voltage system - non-SELV
- Available CCT from 2200K to 6500K and CRI 80, 90 and 95



### LinLED Optimum CRI 80

| Product name                             | Ordering code | Colour temp. [K] | If nominal [mA] | Luminous flux @ If nom & Tp Φ [lm] | Voltage @ If nom & Tp Vf [V] | Power @ If nom & Tp P [W] | Efficiency @ If nom & Tp [lm/W] | Max. current If [mA] |
|------------------------------------------|---------------|------------------|-----------------|------------------------------------|------------------------------|---------------------------|---------------------------------|----------------------|
| LinLED 140x20mm 550lm 830 2C 18V Opt G2  | 101011731246  | 3000             | 185             | 526                                | 17                           | 3,1                       | 169                             | 450                  |
| LinLED 280x20mm 1100lm 830 2C 36V Opt G2 | 101011731646  |                  | 185             | 1053                               | 34                           | 6,2                       | 169                             | 450                  |
| LinLED 560x20mm 2200lm 830 2C 72V Opt G2 | 101011732246  |                  | 185             | 2105                               | 67                           | 12                        | 170                             | 450                  |
| LinLED 140x20mm 550lm 840 2C 18V Opt G2  | 101011731346  | 4000             | 185             | 553                                | 17                           | 3,1                       | 177                             | 450                  |
| LinLED 280x20mm 1100lm 840 2C 36V Opt G2 | 101011731746  |                  | 185             | 1106                               | 34                           | 6,2                       | 177                             | 450                  |
| LinLED 560x20mm 2200lm 840 2C 72V Opt G2 | 101011732346  |                  | 185             | 2213                               | 67                           | 12                        | 178                             | 450                  |

### LinLED Optimum CRI 90

| Product name                             | Ordering code | Colour temp. [K] | If nominal [mA] | Luminous flux @ If nom & Tp Φ [lm] | Voltage @ If nom & Tp Vf [V] | Power @ If nom & Tp P [W] | Efficiency @ If nom & Tp [lm/W] | Max. current If [mA] |
|------------------------------------------|---------------|------------------|-----------------|------------------------------------|------------------------------|---------------------------|---------------------------------|----------------------|
| LinLED 140x20mm 550lm 927 2C 18V Opt G2  | 101011734146  | 2700             | 210             | 482                                | 17                           | 3,6                       | 135                             | 450                  |
| LinLED 280x20mm 1100lm 927 2C 36V Opt G2 | 101011734446  |                  | 210             | 964                                | 34                           | 7,1                       | 135                             | 450                  |
| LinLED 560x20mm 2200lm 927 2C 72V Opt G2 | 101011735346  |                  | 210             | 1928                               | 68                           | 14                        | 135                             | 450                  |
| LinLED 140x20mm 550lm 930 2C 18V Opt G2  | 101011734246  | 3000             | 210             | 518                                | 17                           | 3,6                       | 145                             | 450                  |
| LinLED 280x20mm 1100lm 930 2C 36V Opt G2 | 101011734546  |                  | 210             | 1035                               | 34                           | 7,1                       | 145                             | 450                  |
| LinLED 560x20mm 2200lm 930 2C 72V Opt G2 | 101011735446  |                  | 210             | 2017                               | 68                           | 14                        | 145                             | 450                  |
| LinLED 140x20mm 550lm 940 2C 18V Opt G2  | 101011734346  | 4000             | 210             | 553                                | 17                           | 3,6                       | 155                             | 450                  |
| LinLED 280x20mm 1100lm 940 2C 36V Opt G2 | 101011734646  |                  | 210             | 1107                               | 34                           | 7,1                       | 155                             | 450                  |
| LinLED 560x20mm 2200lm 940 2C 72V Opt G2 | 101011735546  |                  | 210             | 2213                               | 68                           | 14                        | 155                             | 450                  |

### LinLED Basic CRI 80

| Product name                             | Ordering code | Colour temp. [K] | If nominal [mA] | Luminous flux @ If nom & Tp Φ [lm] | Voltage @ If nom & Tp Vf [V] | Power @ If nom & Tp P [W] | Efficiency @ If nom & Tp [lm/W] | Max. current If [mA] |
|------------------------------------------|---------------|------------------|-----------------|------------------------------------|------------------------------|---------------------------|---------------------------------|----------------------|
| LinLED 140x20mm 550lm 830 2C 18V Bsc G1  | 101011736646  | 3000             | 210             | 524                                | 17                           | 3,6                       | 147                             | 450                  |
| LinLED 280x20mm 1100lm 830 2C 36V Bsc G1 | 101011737046  |                  | 210             | 1048                               | 34                           | 7,1                       | 147                             | 450                  |
| LinLED 560x20mm 2200lm 830 2C 72V Bsc G1 | 101011737646  |                  | 210             | 2097                               | 68                           | 14                        | 148                             | 450                  |
| LinLED 140x20mm 550lm 840 2C 18V Bsc G1  | 101011736746  | 4000             | 210             | 551                                | 17                           | 3,6                       | 155                             | 450                  |
| LinLED 280x20mm 1100lm 840 2C 36V Bsc G1 | 101011737146  |                  | 210             | 1102                               | 34                           | 7,1                       | 155                             | 450                  |
| LinLED 560x20mm 2200lm 840 2C 72V Bsc G1 | 101011737746  |                  | 210             | 2204                               | 68                           | 14                        | 155                             | 450                  |

## Linear LED modules 1100lm/1ft 2C

### Temperatures

#### Specification item

|          |      |                                                                                           |
|----------|------|-------------------------------------------------------------------------------------------|
| Tp       | 45°C | Temperature related to the performance parameters of the LED modules                      |
| Tp rated | 65°C | Maximum operating temperature to which the rated performance characteristics are declared |
| Tc       | 85°C | Highest permissible value for safe operation                                              |

### Electrical & Optical data

| Specification item               | Unit   | Value            |
|----------------------------------|--------|------------------|
| Classification acc. to IEC 62031 | [V]    | built-in         |
| Energy Efficiency Class          |        | A++              |
| Beam angle                       | [deg]  | 120              |
| Initial color consistency        | [step] | 3                |
| Initial color coordinates        |        | Acc. to CIE 1931 |
| Photobiological safety           |        | RG1 unlimited    |

### Certificates & standards

| Specification item     | Compliant          |
|------------------------|--------------------|
| ENEC                   | Yes                |
| CE                     | Yes                |
| RoHS                   | Yes                |
| REACH                  | Yes                |
| Zhaga                  | Comply with Book 7 |
| IP rating              | No IP rating       |
| Overheating protection | No                 |

### Lumen maintenance

#### LinLED CRI 80

| Forward current | Tp temperature | L70     |         | L80     |         | L90     |         |
|-----------------|----------------|---------|---------|---------|---------|---------|---------|
|                 |                | B50     | B10     | B50     | B10     | B50     | B10     |
| If nom          | 45°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 |
|                 | 55°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 |
|                 | 65°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | 52,000  |
| If max          | 45°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | 57,000  |
|                 | 55°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | 54,000  |
|                 | 65°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | 48,000  |

simulation based on LM80 LED data (10,000h)

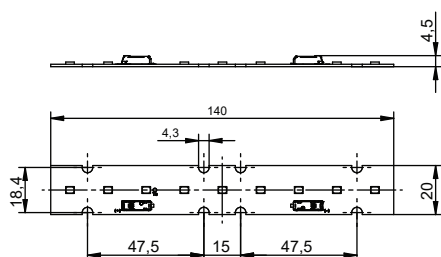
#### LinLED CRI 90

| Forward current | Tp temperature | L70     |         | L80     |         | L90     |        |
|-----------------|----------------|---------|---------|---------|---------|---------|--------|
|                 |                | B50     | B10     | B50     | B10     | B50     | B10    |
| If nom          | 45°C           | >60,000 | >60,000 | >60,000 | >60,000 | >60,000 | 59,000 |
|                 | 55°C           | >60,000 | >60,000 | >60,000 | >60,000 | 55,000  | 54,000 |
|                 | 65°C           | >60,000 | >60,000 | >60,000 | >60,000 | 49,000  | 48,000 |
| If max          | 45°C           | >60,000 | >60,000 | 50,000  | 47,000  | 28,000  | 27,000 |
|                 | 55°C           | >60,000 | >60,000 | 47,000  | 44,000  | 26,000  | 25,000 |
|                 | 65°C           | >60,000 | >60,000 | 44,000  | 41,000  | 24,000  | 22,000 |

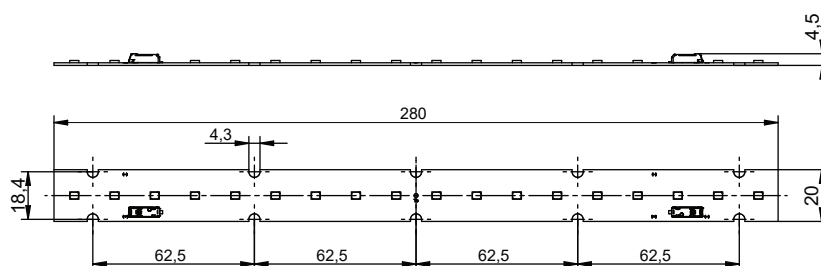
## Linear LED modules 1100lm/1ft 2C

### Dimensions

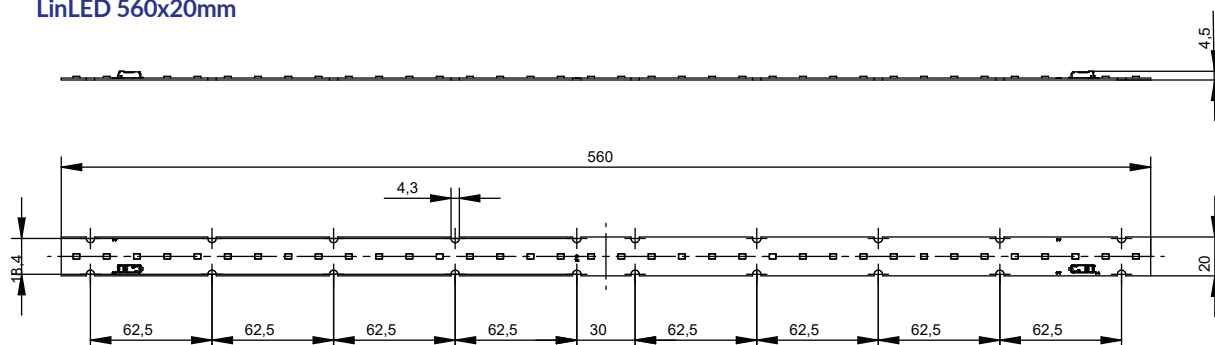
LinLED 140x20mm



LinLED 280x20mm



LinLED 560x20mm



### Mounting

LED Modules cannot be exposed to tensile or compressive stresses.

For this purpose it is necessary that the modules are assembled to a flat surface by only rounded head screws.

Additionally plastic flat washer should be used to ensure creepeage distance between screw's head and surface of the pcb.

Max. torque for fixing: 0,5Nm

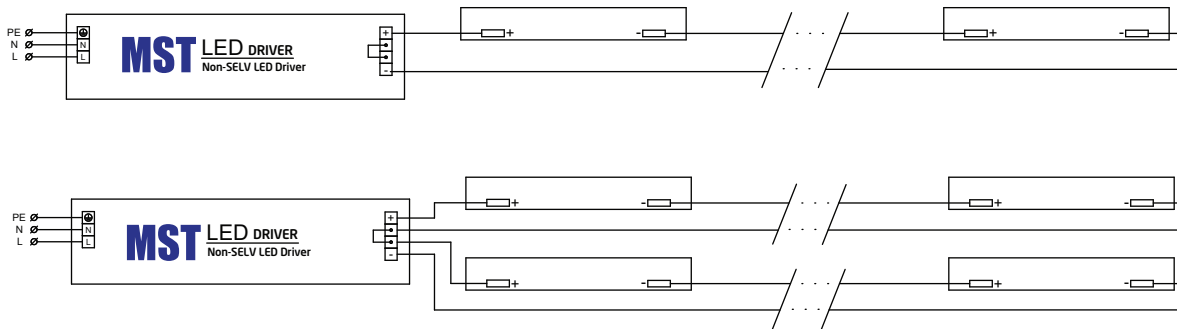
## Linear LED modules 1100lm/1ft 2C

### Connections

Wiring for serial connection system (2C)

$$I_{LED module} = I_{driver}$$

$$U_{driver} = U_{f LED module} * \text{Number of modules}$$

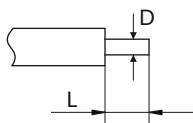


The maximum number of LED modules is limited due to the working voltage of the led module.

The sum of the supply voltages of the LED modules must not exceed the working voltage of the module

### Wiring

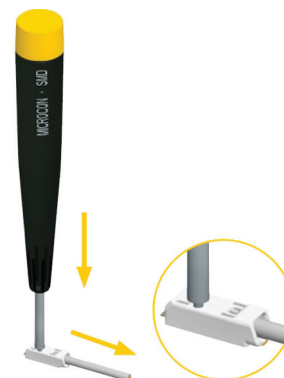
Wire cross section and strip length:



| D - wire cross section<br>solid and flexible wires | Min                | Max                 |
|----------------------------------------------------|--------------------|---------------------|
|                                                    | 0.2mm <sup>2</sup> | 0.75mm <sup>2</sup> |
|                                                    | AWG 18             | AWG 24              |

| L - strip length | Min | Max |
|------------------|-----|-----|
|                  | 8mm | 9mm |

Opening for the release of wires from the top with release pin Electroterminal art. 881 167 884:



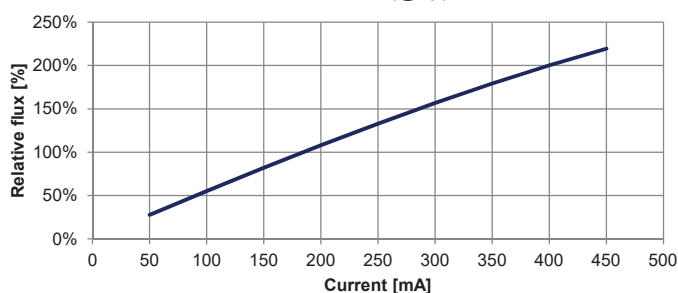
## Linear LED modules 1100lm/1ft 2C

### Performance

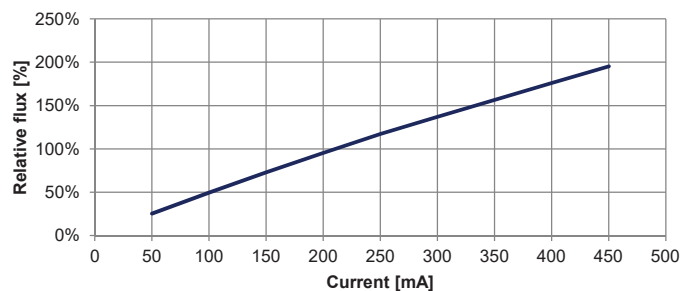
#### LinLED CRI 80

#### LinLED CRI 90

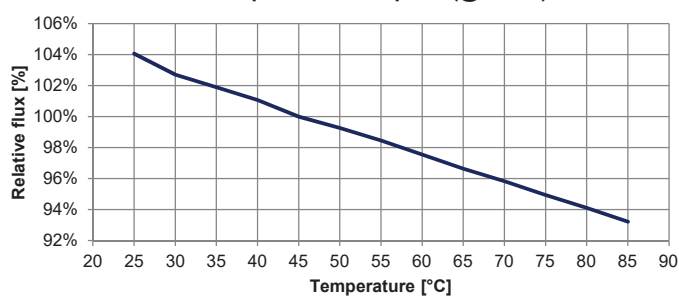
Flux vs current (@Tp)



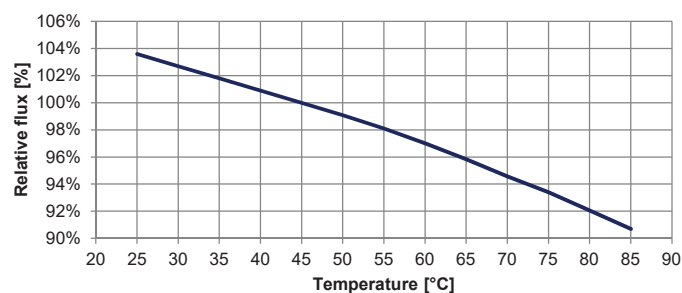
Flux vs current (@Tp)



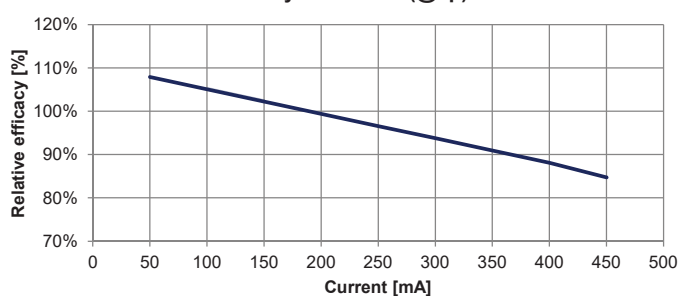
Flux vs temperature at Tc point (@ I nom)



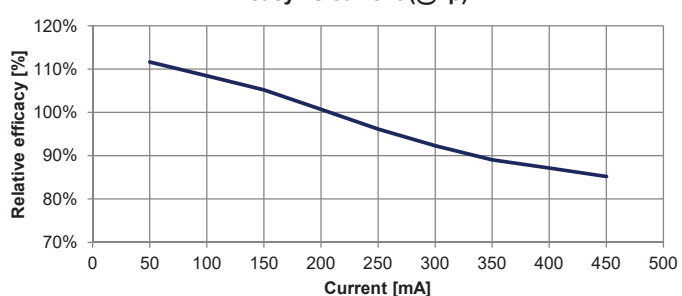
Flux vs temperature at Tc point (@ I nom)



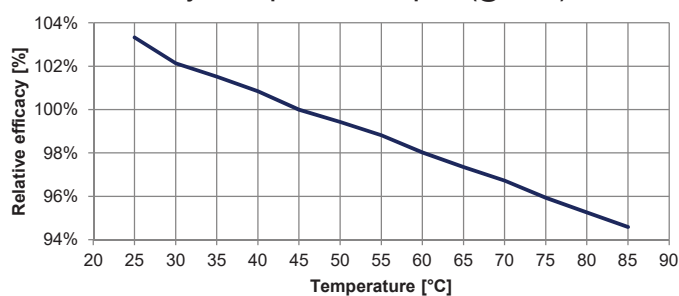
Efficacy vs current (@Tp)



Efficacy vs current (@Tp)



Efficacy vs temperature at Tc point (@ I nom)



Efficacy vs temperature at Tc point (@ I nom)

