



# HF-Regulator Intelligent Touch DALI for TL5/TL-D/PL-L lamps

### HF-Ri TD 4 14/24 TL5 E+ 195-240V

This intelligent high-frequency electronic dimming ballast utilizes the DALI or Touch and Dim push-button protocol for fluorescent lamps. It meets A1BAT requirements, thereby pre-empting upcoming legislation. With a special command you can retrieve the system's mains power consumption, and with another you can find out which lamp wattage is connected. Combined with controls, additional energy savings can be achieved.;The ballast is primarily designed for Indoor application. For outdoor application, the luminaire should be minimum Classland need to be sufficiently protected against water & dust. The installation should also be guard against any lightening surge or any other necessary electrical protection as deemed in such typical installation & application.

#### **Product data**

| General Information                             |              |  |  |
|---|--------------|--|--|
| Application Code                                | E+           |  |  |
| Type Version                                    | mk4          |  |  |
| Lamp Type                                       | TL5          |  |  |
| Number of Lamps                                 | 4 piece/unit |  |  |
| Number of Products on MCB (16A Type B) (Nom) 16 |              |  |  |
| Automatic Restart                               | Yes          |  |  |
|   |              |  |  |
| Operating and Electrical                        |              |  |  |
| Input Voltage                                   | 195-240 V    |  |  |
| Input Frequency                                 | 50 to 60 Hz  |  |  |
| Operating Frequency (Max)                       | 110 kHz      |  |  |
| Operating Frequency (Min)                       | 45 kHz       |  |  |
| ·   |              |  |  |

| Ignition Method                 | Warm Start |  |  |
|---------------------------------|------------|--|--|
| Crestfactor (Max)               | 1.7        |  |  |
| Power Factor 100% Load (Nom)    | 0.95       |  |  |
| Ignition Time (Max)             | 1 s        |  |  |
| Mains Voltage Performance (AC)  | -8%-+6%    |  |  |
| Mains Voltage Safety (AC)       | -10%-+10%  |  |  |
| Earth Leakage Current (Max)     | 0.5 mA     |  |  |
| Inrush Current Width            | 0.26 ms    |  |  |
| Standby Power Consumption (Max) | 0.25 W     |  |  |
| Ballast Factor (Nom)            | 1.0        |  |  |
| Inrush Current Peak (Max)       | 31 A       |  |  |

Datasheet, 2018, May 18 data subject to change

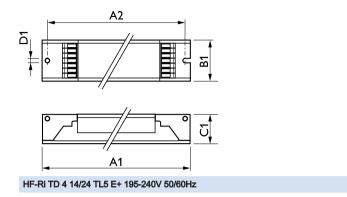
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| Wiring                                     |  |  |  |  |
|--|--|--|--|--|
| Wiring Connector Type Input Terminals      | WAGO 251 universal connector [ Suitable fo |  |  |  |
|  | both automatic wiring (ALF and ADS) and    |  |  |  |
|  | manual wiring]                             |  |  |  |
| Cable Capacity Output Wires Mutual (Max)   | 200 pF                                     |  |  |  |
| Connector Type Output Terminals            | WAGO 251 universal connector [ Suitable f  |  |  |  |
|  | both automatic wiring (ALF and ADS) and    |  |  |  |
|  | manual wiring]                             |  |  |  |
| Connector Type Control Input Terminals     | WAGO 251 universal connector [ Suitable f  |  |  |  |
|  | both automatic wiring (ALF and ADS) and    |  |  |  |
|  | manual wiring]                             |  |  |  |
| Wire Striplength                           | 8.0-9.0 mm                                 |  |  |  |
| Dual Fixture Master/Slave                  | Yes [ Master/Slave operation possible]     |  |  |  |
| Control Input Terminal Cross Section       | 0.50-1.00 mm²                              |  |  |  |
| Input Terminal Cross Section               | 0.50-1.00 mm <sup>2</sup>                  |  |  |  |
| Output Terminal Cross Section              | 0.50-1.00 mm²                              |  |  |  |
| Auto Insert (ALF/ADS) Wire Cross Section   | 0.75 mm²                                   |  |  |  |
| Cable Capacity Output Wires to Earth (Max) | 200 pF                                     |  |  |  |
|  |  |  |  |  |
| System characteristics                     |  |  |  |  |
| Rated Ballast-Lamp Power                   | 14/24 W                                    |  |  |  |
| Rated Lamp Power on TL-D                   | 18 W                                       |  |  |  |
| System Power on TL-D                       | 75 W                                       |  |  |  |
| Lamp Power on TL-D                         | 16.6 W                                     |  |  |  |
| Power Loss on TL-D                         | 8.6 W                                      |  |  |  |
| Rated Lamp Power on PL-L                   | 18/24 W                                    |  |  |  |
| System Power on PL-L                       | 70.6/100.3 W                               |  |  |  |
| Lamp Power on PL-L                         | 15.8/22.9 W                                |  |  |  |
| Power Loss on PL-L                         | 7.4/8.7 W                                  |  |  |  |
| Rated Lamp Power on TL5                    | 14/24 W                                    |  |  |  |
| System Power on TL5                        | 63.3/103.3 W                               |  |  |  |
| Lamp Power on TL5                          | 14.5/23.4 W                                |  |  |  |
| Power Loss on TL5                          | 5.3/9.7 W                                  |  |  |  |
| Rated Lamp Power on TL5 ECO                | 13/20 W                                    |  |  |  |
| System Power on TL5 ECO                    | 55/86.9 W                                  |  |  |  |
| Lamp Power on TL5 ECO                      | 12.9/19.7 W                                |  |  |  |
| Rated Lamp Power on TL-D ECO               | 16 W                                       |  |  |  |
| System Power on TL-D ECO                   | 64.3 W                                     |  |  |  |
| Power Loss on TL-D ECO                     | 7.5 W                                      |  |  |  |
| Lamp Power on TL-D ECO                     | 14.2 W                                     |  |  |  |
| Power Loss on TL5 ECO                      | 3.4/8.1 W                                  |  |  |  |
|  |  |  |  |  |
| Temperature                                |  |  |  |  |
| T-Ambient (Max)                            | 50 °C                                      |  |  |  |
| T-Ambient (Min)                            | -25 °C                                     |  |  |  |
| T-Storage (Max)                            | 80 °C                                      |  |  |  |
| T-Storage (Min)                            | -40 °C                                     |  |  |  |
| T-Case Lifetime (Max)                      | 75 °C                                      |  |  |  |
|  |  |  |  |  |

| T-Case Maximum (Max)                       | 75 °C   |  |  |  |  |
|--|---|--|--|--|--|
| Stable Lamp Operation Temperature          | 15°C  |  |  |  |  |
| T-Ignition (Max)                           |   |  |  |  |  |
|  | -25 °C  |  |  |  |  |
| T-Ignition (Min)                           | -25 C   |  |  |  |  |
| Controls and Dimming                       |   |  |  |  |  |
| Controls and Dimming                       | TD  |  |  |  |  |
| Control Interface                          |   |  |  |  |  |
| Regulating Level Power                     | 1%-100%   |  |  |  |  |
| Control Input Protection                   | Yes (Basic insulation)                            |  |  |  |  |
| Mechanical and Housing                     |   |  |  |  |  |
|  | L 360x39x22                                       |  |  |  |  |
| Housing                                    | L 300X39X22                                       |  |  |  |  |
| Emergency Operation                        |   |  |  |  |  |
| Emergency Operation                        | 109 254 V   |  |  |  |  |
| Battery Voltage Lamp Ignition              | 198-254 V   |  |  |  |  |
| Battery Voltage Lamp Operation             | 176-254   |  |  |  |  |
| Approval and Application                   |   |  |  |  |  |
|  | A1 BAT  |  |  |  |  |
| Energy Efficiency Index  IP Classification |   |  |  |  |  |
|  | IP 20 [ Ingress Protection 20]                    |  |  |  |  |
| EMI 9 kHz 30 MHz                           | EN55015   |  |  |  |  |
| EMI 30 MHz 1000 MHz                        | EN 55022 Class B                                  |  |  |  |  |
| Safety Standard                            | IEC 61347-2-3                                     |  |  |  |  |
| Performance Standard                       | IEC 60929   |  |  |  |  |
| Quality Standard                           | ISO 9000:2000                                     |  |  |  |  |
| Environmental Standard                     | ISO 14001   |  |  |  |  |
| Harmonic Current Emission Standard         | IEC 61000-3-2                                     |  |  |  |  |
| EMC Immunity Standard                      | IEC 61547   |  |  |  |  |
| Vibration Standard                         | IEC68-2-6 F c                                     |  |  |  |  |
| Bumps Standard                             | IEC 68-2-29 Eb                                    |  |  |  |  |
| Humidity Standard                          | EN 61347-2-3 clause 11                            |  |  |  |  |
| Approval Marks                             | CE marking ENEC certificate VDE-EMV               |  |  |  |  |
|  | certificate                                       |  |  |  |  |
| Temperature Marking                        | Yes   |  |  |  |  |
| Emergency Standard                         | IEC 60598-2-22                                    |  |  |  |  |
| Hum And Noise Level                        | Inaudible   |  |  |  |  |
| Product Data                               |   |  |  |  |  |
|  | 074020445670000                                   |  |  |  |  |
| Full product code                          | 871829115678900                                   |  |  |  |  |
| Order product name                         | HF-Ri TD 4 14/24 TL5 E+ 195-240V<br>8718291156789 |  |  |  |  |
| EAN/UPC - Product                          |   |  |  |  |  |
| Order code                                 | 913700679166                                      |  |  |  |  |
| Numerator - Quantity Per Pack              | 1   |  |  |  |  |
| Numerator - Packs per outer box            | 10  |  |  |  |  |
| Material Nr. (12NC)                        | 913700679166                                      |  |  |  |  |
| Net Weight (Piece)                         | 0.392 kg  |  |  |  |  |
|  |   |  |  |  |  |

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#### **Dimensional drawing**



| Product                 | D1     | C1      | A1       | A2       | B1      |
|-------------------------|--------|---------|----------|----------|---------|
| HF-Ri TD 4 14/24 TL5 E+ | 4.2 mm | 22.0 mm | 360.0 mm | 350.0 mm | 39.0 mm |
| 195-240V                |        |         |          |          |         |

