

The DALI Multi-Master (753-647) is certified according to the IEC 62386 DALI-2 standard. This manufacturer-independent protocol ensures the interoperability of DALI devices in lighting applications.

Just 12 mm wide, this module is used as a DALI interface in combination with WAGO's 750 Series Controllers and Modules (e.g., BACnet, KNX, EnOcean, LON®, Modbus®).

Each DALI Multi-Master supports 64 addresses for electronic control gears (ECGs) and 64 addresses for control devices (DALI multi sensors: Connection of max. 16 sensors recommended due to the cyclic transmission characteristics). Each DALI ECG can be assigned to 16 groups and 16 scenes. The DALI Multi-Master also offers 16 additional virtual groups on the DALI bus. Using the WAGO I/O System 750, DALI controllers can be seamlessly integrated into other building systems. Several DALI masters can connect to a single fieldbus node. The maximum number of modules that may be connected to a controller depends on the memory required by the application. The WAGO-I/O-PRO (CODESYS V2.3) or **e!COCKPIT** (based on CODESYS

V3) programming software is used as the programming software for the fieldbus nodes. WAGO provides a comprehensive IEC-61131-3 library of function blocks, simplifying the creation of complex lighting applications.

Alternatively, an "Easy Mode" allows lighting functions to be readily controlled without any complicated PLC programming. The comprehensive and easy-to-use WAGO DALI Configurator is available for commissioning and maintenance – it can either run as a stand-alone application or be called from the WAGO-I/O-CHECK (CODESYS V2.3) or **e!COCKPIT** Software (based on CODESYS V3).

Two options are available to power to the DALI Multi-Master:

1. Via 753-620 DALI Multi-Master DC/DC Converter for powering a single module.
2. Via 787-2857 Power Supply for powering several 753-647 DALI Multi-Master Modules.

## Notes

|      |  |
|------|--|
| Note | The 753 Series Plug is included with delivery. |
|------|--|

## Technical data

|   |  |
|---|--|
| Device specification                    | DALI-2 Specification: DIN IEC 62386 only in conjunction with 753-620 or 787-2857 Power Supplies  |
| Device-specific                         | Current consumption from DALI bus with alternative supply via DALI bus: 10 mA  |
| Topology                                | Number of control gears/control devices (DALI): 64 control gears + 64 control devices (addressable)  |
| Transmission channel                    | 1  |
| Data width                              | 24-byte data   |
| Guaranteed supply current               | 200 mA   |
| Supply current (max.)                   | 250 mA   |
| Supply voltage                          | DALI: 18 V (external)  |
| Commissioning                           | Commissioning and programming: via WAGO-I/O-PRO V2.3 or CODESYS 3.5; Configuration: with WAGO DALI Configurator                              |
| Supply voltage (system)                 | 5 VDC; via data contacts   |
| Current consumption (5 V system supply) | 85 mA  |
| Isolation                               | 2100 VDC DALI bus/local bus  |
| Indicators                              | LED (A-H) green/yellow/red: Easy Mode, TxD, ready for operation, 1 or 2 button operation, Full Mode, RxD, voltage present, latching function |

## Connection Data

|                                 |  |
|---------------------------------|--|
| Connection technology: I/O      | 8 x CAGE CLAMP®                              |
| Connectable conductor materials | Copper                                       |
| Connection type                 | Inputs/outputs                               |
| Solid conductor                 | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Fine-stranded conductor         | 0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                    | 9 ... 10 mm / 0.35 ... 0.39 inches           |

## Physical data

|                                   |                        |
|-----------------------------------|------------------------|
| Width                             | 12 mm / 0.472 inches   |
| Height                            | 100 mm / 3.937 inches  |
| Depth                             | 69 mm / 2.717 inches   |
| Depth from upper-edge of DIN-rail | 61.8 mm / 2.433 inches |

## Mechanical data

|                     |             |
|---------------------|-------------|
| Mounting type       | DIN-35 rail |
| Pluggable connector | pluggable   |

### Material data

|                    |                              |
|--------------------|------------------------------|
| Housing material   | Polycarbonate; polyamide 6.6 |
| Fire load          | 0.792 MJ                     |
| Weight             | 61.4 g                       |
| Conformity marking | CE                           |

### Environmental requirements

|  |  |
|--|--|
| Ambient temperature (operation)  | 0 ... +55 °C   |
| Ambient temperature (storage)  | -40 ... +85 °C   |
| Protection type  | IP20   |
| Pollution degree   | 2 per IEC 61131-2  |
| Operating altitude   | 0 ... 2000 m / 0 ... 6562 ft   |
| Mounting position  | Horizontal left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom |
| Relative humidity (without condensation)   | 95 %   |
| Vibration resistance   | 4g per IEC 60068-2-6   |
| Shock resistance   | 15g per IEC 60068-2-27   |
| EMC immunity to interference   | per EN 61000-6-2*, *only in connection with 753-620 DC/DC Converter or 787-1007 Power Supply           |
| EMC emission of interference   | per EN 61000-6-3*, *only in connection with 753-620 DC/DC Converter or 787-1007 Power Supply           |
| Exposure to pollutants   | per IEC 60068-2-42 and IEC 60068-2-43  |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 % | 10 ppm   |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %  | 25 ppm   |

### Commercial data

|                       |                 |
|-----------------------|-----------------|
| Product Group         | 15 (I/O System) |
| PU (SPU)              | 1 pcs           |
| Packaging type        | Box             |
| Country of origin     | DE              |
| GTIN                  | 4050821475712   |
| Customs tariff number | 85389099990     |

### Product Classification

|             |                      |
|-------------|----------------------|
| UNSPSC      | 39121521             |
| eCl@ss 10.0 | 27-24-26-08          |
| eCl@ss 9.0  | 27-24-26-08          |
| ETIM 9.0    | EC001604             |
| ETIM 10.0   | EC001604             |
| ECCN        | NO US CLASSIFICATION |

### Environmental Product Compliance


|                                    |   |
|------------------------------------|---|
| CAS-No.                            | 1303-86-2<br>1317-36-8<br>7439-92-1<br>79-94-7  |
| REACH Candidate List Substance     | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol<br>Diboron trioxide<br>Lead<br>Lead monoxide |
| RoHS Compliance Status             | Compliant,With Exemption  |
| RoHS Exemption                     | 6(c)<br>7(a)<br>7(c)-I<br>7(c)-II   |
| SCIP notification number (Austria) | 213eb1c4-9ed7-4749-b22e-256a7bf968fb  |
| SCIP notification number (Belgium) | 2f382da1-a23d-4244-9e14-87624fb0f1fd  |

**Environmental Product Compliance**

|   |                                      |
|---|--------------------------------------|
| SCIP notification number (Bulgaria)       | 7c0c02d7-7667-43cd-9d52-56d5d772cb75 |
| SCIP notification number (Czech Republic) | 90479752-9e92-42b2-8a34-27a9419c6e5d |
| SCIP notification number (Denmark)        | c78efd5c-36c2-4820-9e12-4c016b42179e |
| SCIP notification number (Finland)        | bcdfe591-236b-46a9-ae06-835b9f6d9f8b |
| SCIP notification number (France)         | c2299956-d5e5-49c7-8fff-96cdc1449b96 |
| SCIP notification number (Germany)        | 2683dc8b-cc59-4163-a3cc-b2785f3aba7b |
| SCIP notification number (Hungary)        | 9cb78b3b-5d4c-4307-bcc1-559590473e9d |
| SCIP notification number (Italy)          | 0f8e04a5-59fe-4bd8-81a9-b5148e7a1726 |
| SCIP notification number (Netherlands)    | 0be66433-cffe-4108-a84a-068c2f0da78e |
| SCIP notification number (Poland)         | 9fe97acd-0526-41e2-b85a-639c510dd358 |
| SCIP notification number (Romania)        | 1e697fdd-545c-4b9b-b780-65bea0c2984d |
| SCIP notification number (Sweden)         | 0e952436-3ef8-4845-b68d-5663affeb2cc |

**Approvals / Certificates**


**General approvals** **Declarations of conformity and manufacturer's declarations**



| Approval  | Standard               | Certificate Name    |
|---|------------------------|---------------------|
| EAC<br>GZO Almaty Standart                                | TP TC 020/2011         | EAC CoC 03083       |
| KC<br>National Radio Research Agency                      | Article 58-2, Clause 3 | MSIP-REM-W43-MSM750 |
| UL<br>Underwriters Laboratories Inc. (ORDINARY LOCATIONS) | UL 508                 | E175199             |


| Approval   | Standard | Certificate Name |
|--|----------|------------------|
| EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | -        | -                |
| EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | -        | -                |
| UK-Declaration of Conformity<br>WAGO GmbH & Co. KG | -        | -                |
| UK-Declaration of Conformity<br>WAGO GmbH & Co. KG | -        | -                |

**Approvals for marine applications**



| Approval  | Standard              | Certificate Name  |
|---|-----------------------|-------------------|
| ABS<br>American Bureau of Shipping                    | -                     | 22-2219060        |
| BSH<br>Bundesamt fuer Seeschifffahrt und Hydrographie | -                     | 1104              |
| DNV<br>DNV GL SE                                      | DNV-CG-0339, Aug.2021 | TAA0000194        |
| KR<br>Korean Register of Shipping                     | -                     | KR HMB05880-AC001 |
| LR<br>Lloyds Register EMEA                            | -                     | LR22180952TA      |
| PRS<br>Polski Rejestr Statków                         | -                     | TE/1101/880590/23 |
| RINA<br>RINA Germany GmbH                             | -                     | ELE343521XG001    |

**Protocol and fieldbus specific certificates**



| Approval  | Standard | Certificate Name |
|---|----------|------------------|
| DALI2<br>Digital Illumination Interface Alliance (DiiA) | -        | DALI_2_ID2036    |

**Downloads**

**Environmental Product Compliance**

**Compliance Search**

Environmental Product Compliance 753-647



**Documentation**

**Manual**

|                                       |                       |                   |  |
|---------------------------------------|-----------------------|-------------------|--|
| Product Manual WAGO DALI Configurator | V 4.1.0<br>24.06.2024 | pdf<br>5467.88 KB |  |
|---------------------------------------|-----------------------|-------------------|--|

|                              |  |  |  |
|------------------------------|--|--|--|
| System Manual Series 750/753 |  |  |  |
|------------------------------|--|--|--|

|   |                       |                   |  |
|---|-----------------------|-------------------|--|
| Product Manual DALI Multi-Master Module | V 1.4.5<br>29.11.2022 | pdf<br>2635.00 KB |  |
|---|-----------------------|-------------------|--|

**Compatibility Information**

|                                 |                       |                  |  |
|---------------------------------|-----------------------|------------------|--|
| Compatibility List DALI Sensors | V 1.2.4<br>19.02.2025 | pdf<br>516.91 KB |  |
|---------------------------------|-----------------------|------------------|--|

**System Description**

|   |  |                  |  |
|---|--|------------------|--|
| 750/753 Series I/O-System – General Product Information |  | pdf<br>953.35 KB |  |
|---|--|------------------|--|

|   |  |                  |  |
|---|--|------------------|--|
| Overview on WAGO-I/O-SYSTEM 750 approvals |  | pdf<br>770.48 KB |  |
|---|--|------------------|--|

**Bid Text**

|         |            |                |  |
|---------|------------|----------------|--|
| 753-647 | 14.05.2019 | x81<br>7.10 KB |  |
|---------|------------|----------------|--|

|         |            |                  |  |
|---------|------------|------------------|--|
| 753-647 | 14.05.2019 | docx<br>38.51 KB |  |
|---------|------------|------------------|--|

|                         |  |  |  |
|-------------------------|--|--|--|
| ausschreiben.de 753-647 |  |  |  |
|-------------------------|--|--|--|

**Application Notes**

**Application Note CoDeSys 2.3**

|                                 |                          |                  |  |
|---------------------------------|--------------------------|------------------|--|
| Application Note ThebenKNX_DALI | 25.08.2016<br>25.08.2016 | zip<br>727.76 KB |  |
|---------------------------------|--------------------------|------------------|--|

|  |                     |                   |  |
|--|---------------------|-------------------|--|
| Application note: DALI 753-647 Configuration Interface | 1.0.2<br>29.04.2019 | zip<br>3032.71 KB |  |
|--|---------------------|-------------------|--|

**Application Note e!COCKPIT**

|  |                          |                   |  |
|--|--------------------------|-------------------|--|
| e!COCKPIT application note WagoAppDALI | 2021-11-08<br>08.11.2021 | pdf<br>2216.90 KB |  |
|--|--------------------------|-------------------|--|

**CAD/CAE-Data**

**CAD data**

|                      |  |
|----------------------|--|
| 2D/3D Models 753-647 |  |
|----------------------|--|

**CAE data**

|                           |  |
|---------------------------|--|
| EPLAN Data Portal 753-647 |  |
|---------------------------|--|

|                        |  |
|------------------------|--|
| WSCAD Universe 753-647 |  |
|------------------------|--|

|                      |  |
|----------------------|--|
| ZUKEN Portal 753-647 |  |
|----------------------|--|

## Engineering-Software

### Configuration and Commissioning Software

|  |                          |                    |  |
|--|--------------------------|--------------------|--|
| WAGO DALI Configurator Setup (753-647) | 3.77.00.00<br>31.05.2021 | zip<br>23931.51 KB |  |
|--|--------------------------|--------------------|--|

## Runtime Software

### Firmware

|  |                    |                  |  |
|--|--------------------|------------------|--|
| 0753-0647 HW02, DALI-Multi-Master        | V 08<br>07.06.2022 | zip<br>451.55 KB |  |
| 0753-0647 HW03 DALI 2, DALI-Multi-Master | V 26<br>03.07.2025 | zip<br>195.06 KB |  |

## Libraries

### e!COCKPIT libraries

|   |                        |                   |  |
|---|------------------------|-------------------|--|
| e!COCKPIT Library Description WagoAppDALI | 1.3.0.36<br>30.06.2022 | pdf<br>2162.70 KB |  |
|---|------------------------|-------------------|--|

### Library

|   |                          |                    |  |
|---|--------------------------|--------------------|--|
| Libraries for Building Automation CODESYS 2.3 | 2025-01-30<br>30.01.2025 | zip<br>71441.83 KB |  |
|---|--------------------------|--------------------|--|

## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 DIN-rail

##### 1.1.1.1 Mounting accessories



**Item No.: 210-196**  
Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



**Item No.: 210-198**  
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored



**Item No.: 210-197**  
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored



**Item No.: 210-114**  
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



**Item No.: 210-118**  
Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored



**Item No.: 210-112**  
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored



**Item No.: 210-113**  
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

#### 1.1.2 Marking

##### 1.1.2.1 Group marker carrier



**Item No.: 750-107**  
Group marker carrier

1.1.2.2 Marker

**Item No.: 2009-145/000-006**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

**Item No.: 2009-145/000-007**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray

**Item No.: 2009-145/000-023**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

**Item No.: 2009-145/000-012**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

**Item No.: 2009-145/000-005**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red

**Item No.: 2009-145/000-024**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet

**Item No.: 2009-145**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

**Item No.: 2009-145/000-002**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow



**Item No.: 248-501/000-006**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

**Item No.: 248-501/000-007**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

**Item No.: 248-501/000-023**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green

**Item No.: 248-501/000-017**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green



**Item No.: 248-501/000-012**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

**Item No.: 248-501/000-005**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red

**Item No.: 248-501/000-024**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

**Item No.: 248-501**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white



**Item No.: 248-501/000-002**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow

1.1.2.3 Marker carrier



**Item No.: 750-103**

Group marker carrier

1.1.3 Power supply

1.1.3.1 Power Supply



**Item No.: 787-2857**

Power supply; Compact; 1-phase; 18 VDC output voltage; 1.25 A output current; DC-OK LED

1.1.3.2 Supply module



**Item No.: 753-620**

DALI Multi-Master DC/DC Converter

## 1.1.4 Sensors

### 1.1.4.1 Sensor



**Item No.: 2851-8301**

DALI MSensor 02 5DPI 41rc (Ceiling Installation)



**Item No.: 2851-8303**

DALI MSensor 02 5DPI 41rs (Surface Installation)



**Item No.: 2851-8302**

DALI MSensor 02 5DPI 41W (Box installation)



**Item No.: 2851-8202**

DALI sensor coupler



**Item No.: 2851-8201**

WAGO DALI Multi-Sensor Kit

## 1.1.5 Shield termination

### 1.1.5.1 Shield clamping saddles



**Item No.: 790-108**

Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm



**Item No.: 790-208**

Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm



**Item No.: 790-116**

Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm



**Item No.: 790-216**

Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm



**Item No.: 790-124**

Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm



**Item No.: 790-220**

Shield clamping saddle; 30 mm wide; 6 ... 20 mm



**Item No.: 790-140**

Shield clamping saddle; diameter of compatible conductor

## 1.1.6 System enclosure

### 1.1.6.1 System enclosure



**Item No.: 850-825**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20



**Item No.: 850-826**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



**Item No.: 850-827**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



**Item No.: 850-828**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



**Item No.: 850-826/002-000**

IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



**Item No.: 850-827/002-000**

IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



**Item No.: 850-828/002-000**

IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



**Item No.: 850-834**

IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20



**Item No.: 850-835**

IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



**Item No.: 850-836**

IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



**Item No.: 850-814/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate



**Item No.: 850-815/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate



**Item No.: 850-816/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate



**Item No.: 850-817/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate

Subject to changes. Please also observe the further product documentation!

Current addresses can be found at: [www.wago.com](http://www.wago.com)