

JUMO digiLine hub

Bus distributor for digital sensors from JUMO

The JUMO digiLine hub is a hub intended for use with the JUMO digiLine bus. It serves as a node for branching the bus line coming from the master device to individual sensors. For digital sensors with higher current consumption and situations with longer lengths of the JUMO digiLine bus, the JUMO digiLine hub can serve as a bus voltage supply close to the digital sensors. Digital sensors as well as additional JUMO digiLine hubs can be connected to the outputs of a JUMO digiLine hub to extend the JUMO digiLine bus. In addition to conventional bus line installations in a line topology, JUMO digiLine hubs allow the following branched topologies as well:

- individual hub as star distributor for the branching the bus line to a maximum of 4 digital sensors
- star-shaped topology with several hubs close to one another (short bus line connections between the hubs) to more than 4 digital sensors
- branch lines in a line topology

The JUMO digiLine hub has an integrated voltage controller that can be used to supply the bus voltage of DC 5 V from the node point. Generation of the DC 5 V voltage supply close to the digital sensor minimizes the voltage drop in the bus lines. Feeding DC 24 V directly to the JUMO digiLine hub is a prerequisite. This voltage can be provided by either the master device or power supply unit available as an accessory. Distribution of the incoming voltage supply and activation of the internal voltage controller are configured in the JUMO digiLine hub with the aid of a switch. In this way, the bus voltage supply can be tailored to the requirements of the bus installation that result from the line lengths and current consumption of the digital sensors.



Type 203590

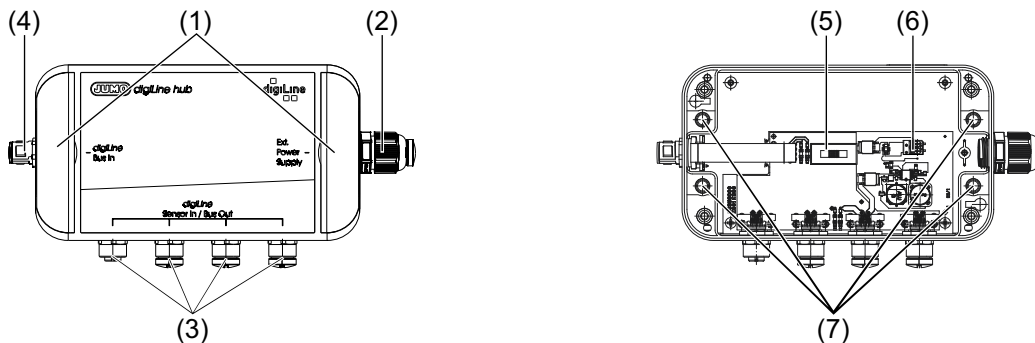
Application examples

- **Aeration tank in a sewage treatment plant:** The JUMO digiLine hub is mounted in a central location for the sensors and the bus line runs to the sensors in a star topology.
- **CIP lines in a beverage plant:** A bus line runs from each of several sensors on different CIP lines to a central point. Here, they are connected to the outputs of the JUMO digiLine hub. Only a single bus line runs from the master device to the JUMO digiLine hub and then branches to the digital sensors. The installation expenses reduced considerably compared to a conventional sensor installation. Moreover, compared to a conventional installation, the JUMO digiLine bus technology permits longer cable runs with reliable transmission of the measured values. This provides greater flexibility when selecting the mounting site for the master device in terms of readability or incorporation into the facility's control system.

Description

Device setup

The following figures show the JUMO digiLine hub once with the cover closed (figure at left) and once with it open (figure at right). The screws for the device cover are located under the hinged screw covers (1). The mounting holes (7) are also located under the screw cover (1). The JUMO digiLine hub has a 5-pole M12 plug connector for the incoming bus cable, which then branches to the 4 outputs (3). If the supply voltage from the master device is insufficient for the connected sensors, a separate power supply unit can be connected to the JUMO digiLine hub at the plug-in terminal (6) to power the bus. The supply cable for the power supply unit enters through the cable fitting (2). The supply voltage for the JUMO digiLine hub is configured with the aid of the switch (5). In this regard, please refer to the installation instructions for the JUMO digiLine hub.



Voltage supply

JUMO digiLine master devices can provide the supply voltage for the bus cable connected to digital sensors (DC 5 V and DC 24 V). Alternatively, the JUMO digiLine hub can be powered directly with only DC 24 V from a master device or a power supply unit available as an accessory. This voltage is available at the outputs and ultimately supplied to the bus outputs as DC 5 V with the aid of the internal voltage controller. In this way the supply voltage of DC 5 V is provided closer to the sensors and the voltage drop along the bus cable eliminated. This is necessary in the case of long bus cables and digital sensors with higher current consumption. In this regard, please refer to the planning guidelines in the operating instructions for JUMO digiLine master devices.

Electrical connection

The JUMO digiLine hub has a 5-pole M12 plug connector on the left side for connection of the incoming bus cable. Four 5-pole M12 sockets are provided on the underside of the device for outgoing cables to digital sensors or additional JUMO digiLine hubs. A cable fitting is located on the right side to connect, if necessary, a power supply unit as optional extra inside the device (see supply voltage).

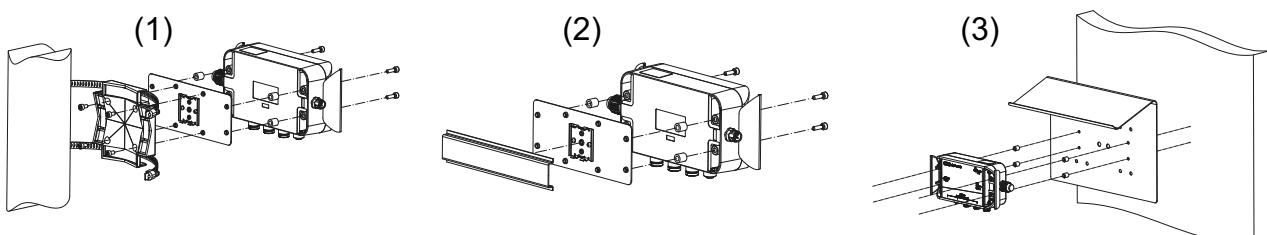
Housing

The rugged housing of the JUMO digiLine hub has been designed for the harsh conditions in industrial surroundings. It satisfies the requirements for protection type IP 66 and thus offers very good protection against the ingress of moisture. In addition to conventional wall mounting, the mounting set available as an accessory also allows the JUMO digiLine hub to be placed on system components by means of pipe mounting or DIN-rail mounting.

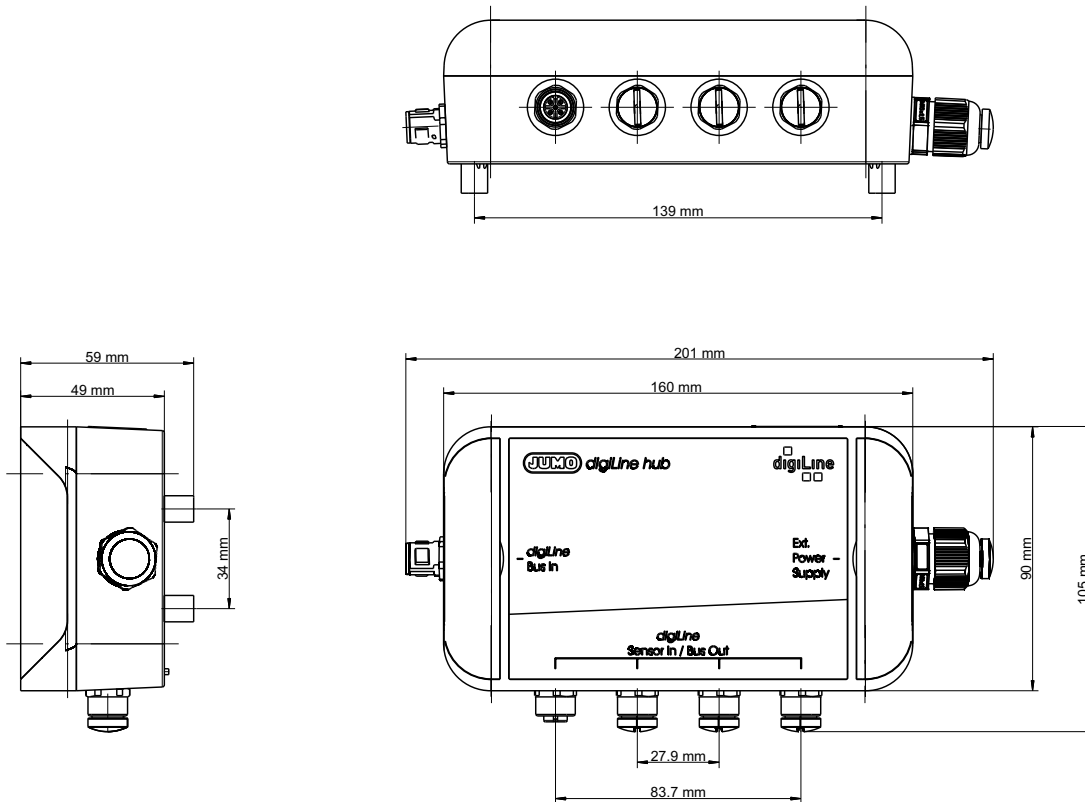
Mounting

The housing can be mounted on walls or suitable surfaces of system components by means of 4 mounting screws. For greater flexibility when selecting the mounting site, the following mounting sets are available:

- (1) **Pipe mounting set** (e. g. for attachment to system components or structures)
- (2) **DIN-rail mounting set** (e. g. for installation in control cabinets)
- (3) **Weather protection canopy** (can be used with all mounting approaches to protect against UV light and rain)



Dimensions



Technical data

Electrical data

| | |
|-------------------------------------|--|
| Voltage supply ^a | DC 23 to 26 V, max. 3A (SELV or PELV) |
| Electromagnetic compatibility (EMC) | DIN EN 61326-1 |
| Interference emission | Class B |
| Interference immunity | Industrial requirements |
| Protection rating | Protection rating III |

^a The bus voltage supply can be taken from the digiLine master. In this case, the JUMO digiLine hub splits the voltage supplies supplied at the input to the outputs. Alternatively, the bus voltage supply can be realized by means of the internal voltage regular in the JUMO digiLine hub. In this case, the JUMO digiLine hub requires a voltage supply from an optional DC 24 V power supply unit (see chapter "Accessories", page 4). The voltage supply for the JUMO digiLine bus must be rated as SELV or PELV in accordance with DIN EN 61140.

Case

| | |
|-----------------------------------|---|
| Material | ASA LURAN |
| Ambient temperature | -20 to +65 °C |
| Storage temperature | -20 to +65 °C |
| Resistance to climatic conditions | Relative humidity < 92% annual average, no condensation |
| Protection type | IP66 |
| Operating position | vertical with M12 sockets of the outputs facing downwards |

JUMO GmbH & Co. KG

Hausadresse: Moritz-Juchheim-Straße 1, 36039 Fulda, Germany
 Lieferadresse: Mackenrodtstraße 14, 36039 Fulda, Germany
 Postadresse: 36035 Fulda, Germany

Telefon: +49 661 6003-714
 Telefax: +49 661 6003-605
 E-Mail: mail@jumo.net
 Internet: www.jumo.net



Order details

| (1) Basic type |
|--------------------------|
| 203590 JUMO digiLine hub |

(1)

Order code

Order example

203590

Scope of delivery

| Basic type |
|--------------------------------------|
| JUMO digiLine hub |
| 4 spacer sleeves for mounting screws |
| 1 plug for cable fitting |
| 3 plugs for M12 sockets |
| Installation instructions |

Accessories

Accessories

| Basic type | Part no. |
|---|----------|
| JUMO M12 digiLine master connecting cable ^a 5-pole, A-coded, 10 m long | 00638341 |
| JUMO M12-digiLine master connecting cable ^a 5-pole, A-coded 5 m long | 00638337 |
| JUMO M12-digiLine master connecting cable ^a 5-pole, A-coded 1.5 m long | 00638333 |
| JUMO M12 connecting cable five-pole 15 m | 00638324 |
| JUMO M12 connecting cable five-pole 10 m | 00638322 |
| JUMO M12 connecting cable five-pole 5 m | 00638315 |
| JUMO M12 connecting cable five-pole 1.5 m | 00638313 |
| JUMO M12 connecting cable 5-pole 0.5 m | 00638312 |
| JUMO Y-splitter 5-pole | 00638327 |
| JUMO power supply unit for JUMO digiLine hub | 00661597 |
| JUMO M12 terminating connector | 00461591 |
| Weather protection canopy | 00401169 |
| Top hat rail assembly set | 00648758 |
| Pipe assembly set | 00648759 |

^a For connection to masters with screw or spring-cage terminals; prepare one end of the cable with a 5-pole M12 plug and the other end with ferrules.