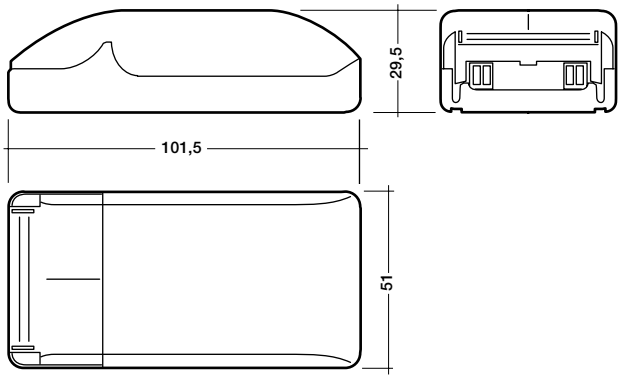
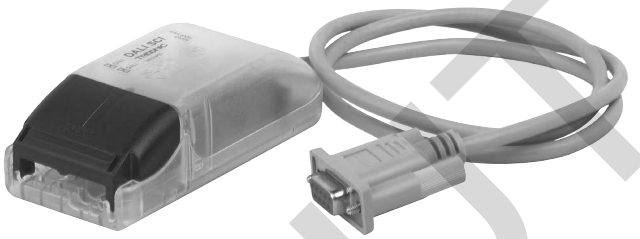
# DALI SCI



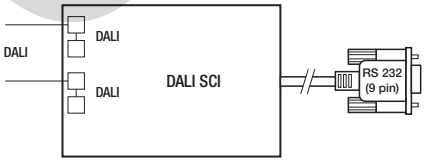



**Function:**

- The DALI SCI interface module enables DALI installations to be connected to personal computers or programmable controllers in DALI installations.
- This enables DALI installations to be integrated in existing control systems.
- 5-year guarantee

**Installation:**

- DALI SCI is supplied directly via the DALI line and from the serial RS 232 interface and need not be connected to the mains power supply.
- DALI is not SELV. The installation instructions for low voltage therefore apply.
- DALI SCI is an opto-isolated connection between the DALI signal line and the serial RS 232 interface.

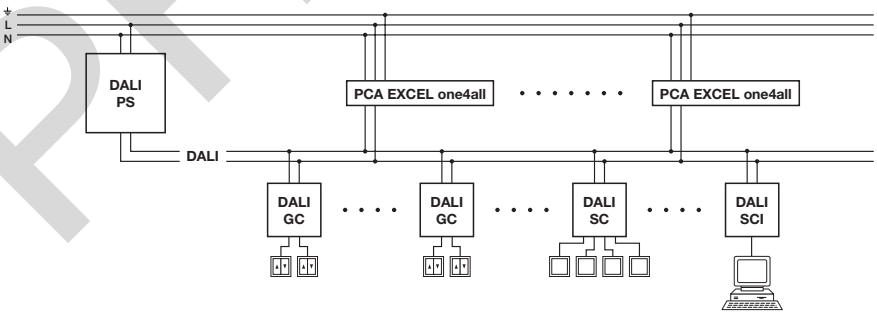



Connection diagram

**Glow-wire test**
according to EN 60598-1 passed.

**DALI standard**
The DALI SCI is deisgned to control control gear with DALI standard IEC 60929 (DALI V0) and IEC 62386 (DALI V1).

| Type | | DALI SCI |
|---|---|---|
| Article number | | 24033463 |
| Power supply | - | From the DALI line and RS 232 |
| Input current | - | 6 mA (DALI line) |
| Input | 1 | RS 232 (personal computer) |
| Input | Cable length | approx. 0.8 m |
| Output | 1 | DALI |
| Temperature | Permissible ambient temperature | 0 °C → 50 °C |








TRIDONIC

**Interface description:**

**Connection:**
The SCI is supplied from the DALI Bus AND (because of electrical isolation) from the serial Port of the PC. For this purpose the RS232 Signals RTS and DTR must be set to the following levels before any communication can take place:

RTS = +6 ... +12 V
DTR = -6 ... -12 V

This could be done in software or by hardware wiring.

| RS232 connector (9 pin) | |
|---|---|
| pin 5 | Ground |
| pin 3 | TxD |
| pin 2 | RxD |
| pin 4 | DTR (for supply purpose only) |
| pin 7 | RTS (for supply purpose only) |

**Serial Interface Configuration:**
19200 baud; 8 data bit; no parity; 1 stop bit (19200, 8, n, 1)
half duplex

**Transmission Frame:**
The transmission frame consists of 7 bytes:

| 8 bit | 8 bit | 8 bit | 8 bit | 8 bit | 8 bit | 8 bit |
|---|---|---|---|---|---|---|
| **Start/Ctrl** | ADDR_HI | ADDR_MID | **ADDR_LO** | **DATA_HI** | **DATA_LO** | **Check** |

**Start/Control:**

| bit 7 | bit 6 | bit 5 | bit 4 | bit 3 | bit 2 | bit 1 | bit 0 |
|---|---|---|---|---|---|---|---|
| 0 | Identify/ nDALI | Echo | DSI/nDALI | 0 | 0 | 0 | 0 |

bit 7: not used, should be set LOW for compatibility with future releases
bit 6: High: no data is sent out on the DALI bus, answer to PC only (used to test connection)
when DATA_HI = , then Enable = DATA_LO bit 0 (default: enable)
Low: DALI (DSI) output DALI bus
bit 5: High: immediate reply to PC (not waiting for DALI answer)
Low: waiting for DALI answer (10 ms max.) DALI „NO“ after 10 ms
bit 4: High: Data output using DSI format
DATA_HI = 0: DATA_LO = 8 bit DSI data
DATA_HI > 0: DATA_HI and DATA_LO = 16 bit ext. DSI data
Low: Data output using DALI format
DATA_HI: DALI HighByte
DATA_LO: DALI LowByte
bit 3: not used, should be set LOW for compatibility with future releases
bit 2: not used, should be set LOW for compatibility with future releases
bit 1: not used, should be set LOW for compatibility with future releases
bit 0: not used, should be set LOW for compatibility with future releases

**ADDR_HI ... ADDR_LO**
The adress (ADDR_HI ... ADDR_LO) is not used by the DALI SCI, supported for software compatibility with other DALI products only. Should be set to zero.

**Check**
XOR-combination of the previous 6 bytes (Start/Control ... to ... DATA_LO).

**DATA_HI, DATA_LO**
DALI/DSI data. See Start/Control for a description.

**SCI answer to PC:**

The DALI-SCI answer to the PC uses 3 bytes:

| 8 bit | 8 bit | 8 bit |
|---|---|---|
| **Start/Ctrl** | **DATA** | **Check** |

**Start/Control:**

| bit 7 | bit 6 | bit 5 | bit 4 | bit 3 | bit 2 | bit 1 | bit 0 |
|---|---|---|---|---|---|---|---|
| Identifier | | | | Release | | Status | |

| | | | | | |
|---|---|---|---|---|---|
| Identifier | DALI SCI ID = 5 | | | | |
| Release | 0 | (firmware releases Feb. 2001) | | | Start/Control in current release |
| Status | 00 | OK | | | 0x50 |
| | 01 | DALI Data | | | 0x51 |
| | 10 | DALI answer "NO" | | | 0x52 |
| | 11 | Error | check sum: | DATA = 1 | 0x53 |
| | | | DALI bus short circuit: | DATA = 2 | |
| | | | DALI recive error: | DATA = 3 | |

**Data**
If Identify = 1 or Echo = 1: 0 = DALI disable: 1 = DALI enable
else: DALI answer byte

**Check Sum**
XOR-combination of the previous 2 bytes (Start/Control XOR DATA).

**Attention:**
The DALI SCI reply should be checked under all circumstances. This assures the DALI command has been sent (and received) and the SCI is ready to handle a new command. There is no command buffer in the SCI!

DALI SCI complies with the DALI standard; the specification with the DALI commands can be found in IEC 60929 (in future in IEC 62386). This can be obtained from the local standards office.

The function of DALI SCI has been tested with all TridonicAtco DALI products, and the function guarantee applies only to these products.