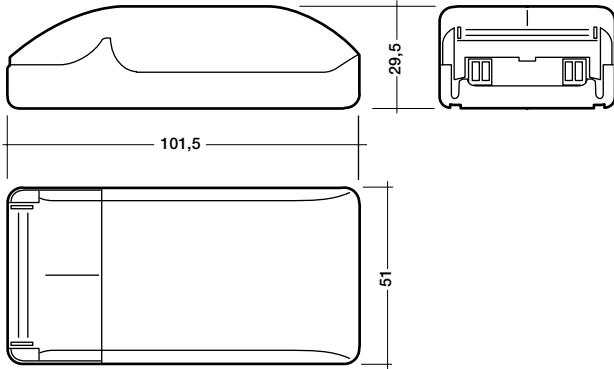


DALI SCI



**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.

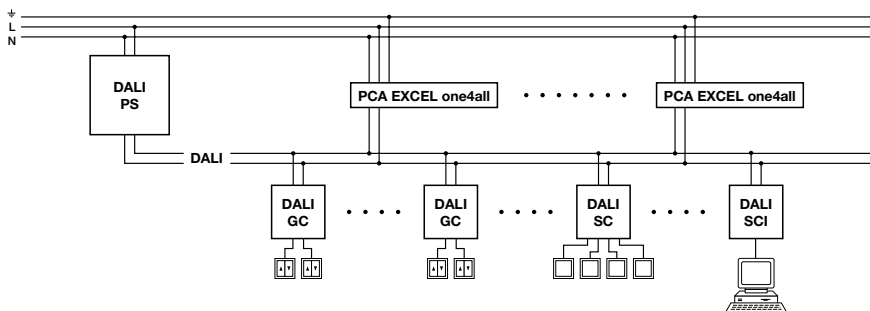
**Installation:**

- DALI SCI is supplied directly via the DALI line 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

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



## 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	
pin 5	Ground
pin 2	TxD
pin 3	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 address (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
<b>Start/Ctrl</b>	<b>DATA</b>	<b>Check</b>

### 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 receive 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.