

# Data Sheet BCL 41

**Generals:**

The BCL 41 corresponds technically to the BCL 40, especially concerning reading characteristics, housing and basic electrical data (power consumption, operating voltage etc.). This data sheet contains all characteristics of the BCL 41 which are different from the BCL 40, all other data remain the same as shown in BCL 40 manual.

**Important note:**

The BCL 41 may never be run together with the standard connection units (MA 10, MA 30, MA 40) of the BCL40/80 family because of its different pinning on the Sub-D connector. A BCL 41 connected to an MA 10/30/40 doesn't cause any damages but will not run properly. The BCL 41 was developed as stand alone unit for direct connection to the Leuze multiNet or a RS 485 interface card. For comfortable cabling and addressing in network a special connection unit MA 3 is available.

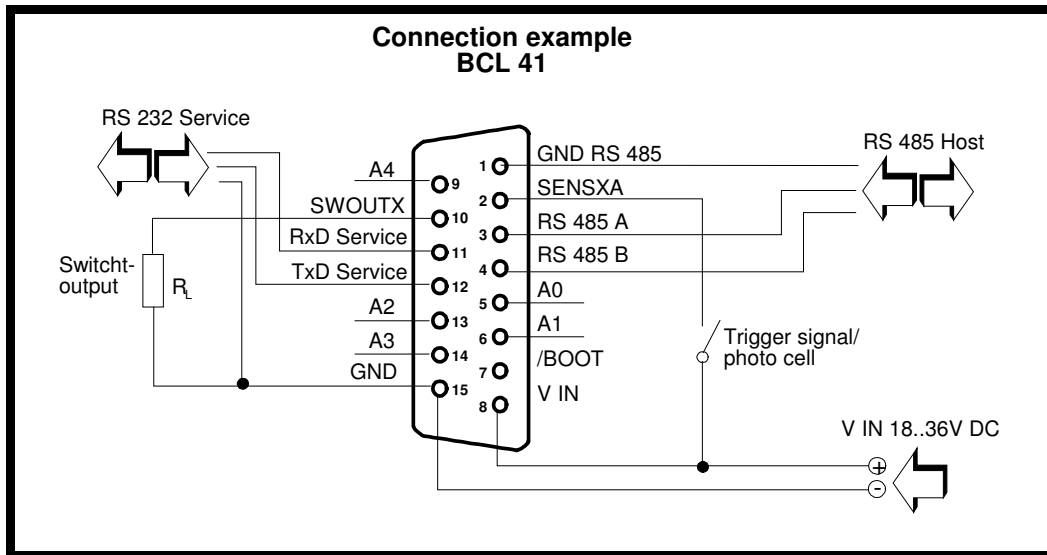
**Differences between BCL 41 and BCL 40:**

Feature	BCL 41	BCL 40
Connection units (MA's)	MA 3 only	MA 10, MA 30, MA 40
Host-Interface	RS 485 galvanically isolated	RS 232/RS 485 galv. not isolated
Sensor Input	galv. protected 1-pole	galv. isolated 2-pole
Switch Output	PNP-Output (100mA)	2 PNP outputs (with MA 10/30 only)
GND-Connection	1 common pin for operating voltage and RS 232-service interface	1 pin for RS 232/RS 485-GND 1 pin for operating voltage GND
Addressing in multiNet	5 Pins	By software setup or MA

**Pinning of BCL 41 SubD connector 15-pole (Compared to BCL 40):**

Pin No.	BCL 41	Description	BCL 40
1	GND RS 485	GND Host-Interface	GND RS 232/RS485
2	SENSXA	Switch Input against GND	SENSXA
3	RS 485 A	Host-Interface (galv. isolated)	CTS Host
4	RS 485 B	Host-Interface (galv. isolated)	RTS Host
5	A0	Address-Bit 2 <sup>0</sup>	TxD Service
6	A1	Address-Bit 2 <sup>1</sup>	MODE_F
7	/BOOT	reserved, may not be connected	/BOOT
8	V IN	18..36V DC operating voltage	V IN
9	A4	Address-Bit 2 <sup>4</sup>	SENSXB
10	SWOUTX	Switch Output PNP	n.c.
11	RxD Service	Service-Interface RS 232	RxD Host
12	TxD Service	Service-Interface RS 232	TxD Host
13	A2	Address-Bit 2 <sup>2</sup>	RxD Service
14	A3	Address-Bit 2 <sup>3</sup>	MODE_S
15	GND	GND operating voltage/ RS 232 Service	GND IN
metal body	PE	Protective earth	PE

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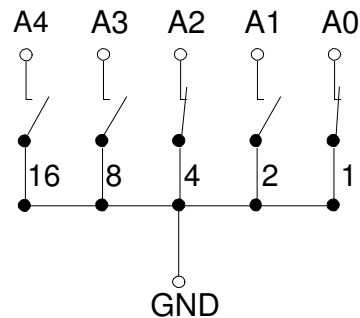
**Addressing in the network:**

In the network (multiNet) the BCL 41 is binary addressed by five address-pins A0..A4. The following rule applies:

- Address pin open: *binary 0*
- Address pin connected to GND (Pin 15): *binary 1*

**Address table:**

Network address	A4=2 <sup>4</sup> Pin 9	A3=2 <sup>3</sup> Pin 14	A2=2 <sup>2</sup> Pin 13	A1=2 <sup>1</sup> Pin 12	A0=2 <sup>0</sup> Pin 5
none	0	0	0	0	0
01	0	0	0	0	1
02	0	0	0	1	0
03	0	0	0	1	1
04	0	0	1	0	0
...	...	...	...	...	...
31	1	1	1	1	1



Example address: 4 + 1 = 05

**Notes:**

- All address pins open switches off the network address (no address)
- Only addresses between 01 and 31 are valid
- When using a MA 3, the network address is selected by turning the blue HEX-Switch

**Table: Overview of the BCL 41 types:**

Type	Reading distance (mm)	Resolution (mm)	Scanrate (Scans/s)	Order-Nr.	Remark
BCL 41 R1 M 100	0..250	0,2..1,0	1200	500 29721	Raster
BCL 41 R1 F 100	50..500	0,2..1,0	1200	500 29720	Raster
BCL 41 R1 L 100	250..700	0,5..1,2	900	500 30059	Raster
BCL 41 S M 100	0..250	0,2..1,0	1200	500 29723	Single Line
BCL 41 S F 100	50..500	0,2..1,0	1200	500 29722	Single Line
BCL 41 S L 100	250..700	0,5..1,2	900	500 29998	Single Line