



MA 22 DC Connecting Unit for Daisy Chain

Networking of several BCL 22 without additional Master

The connecting unit MA 22 DC allows the networking of up to 4 barcode readers on base of the RS 232 interface. An additional master is not necessary. Via the scnd 9 pin interface of the MA 22 DC another connecting unit can be combined. The overall length of the RS 232 cabel however shall not extend the specified 10m length.

Communication

Host interface: To connect the MA 22 DC with the host, there are two 9 pin sub-D plugs available. The left one (Leuze default) is specified like all service interfaces of the decoders or MA's from Leuze electronic.

Pinning: TX Pin 3; RX Pin 2.

The right one can be used to connect another MA 22 DC, or also to connect a host with opposite pinning.

Pinning: TX Pin 2; RX Pin 3.

All messages are looped through all scanners. Therefore it is important to close the bridge J (1-4) after the last connected scanner to combine the TX of the last scanner with the RX of the host.

Also if a second MA 22 DC is used, the bridge must be closed after the last scanner. The plugs for the scanners may not have a gap, also when using a second MA 22 DC.

Note: if there is an interruption on the serial line, a communication is not anymore possible.

Addressing

Host → BCL: All telegrams from Host to one of the BCL's starts with [S] and an address between 0 and 9.

BCL → Host: All telegrams from a BCL to the Host starts with [R] and an address between 0 and 9.

Broadcast: All telegrams from Host to all BCL's starts with B and the address 0.

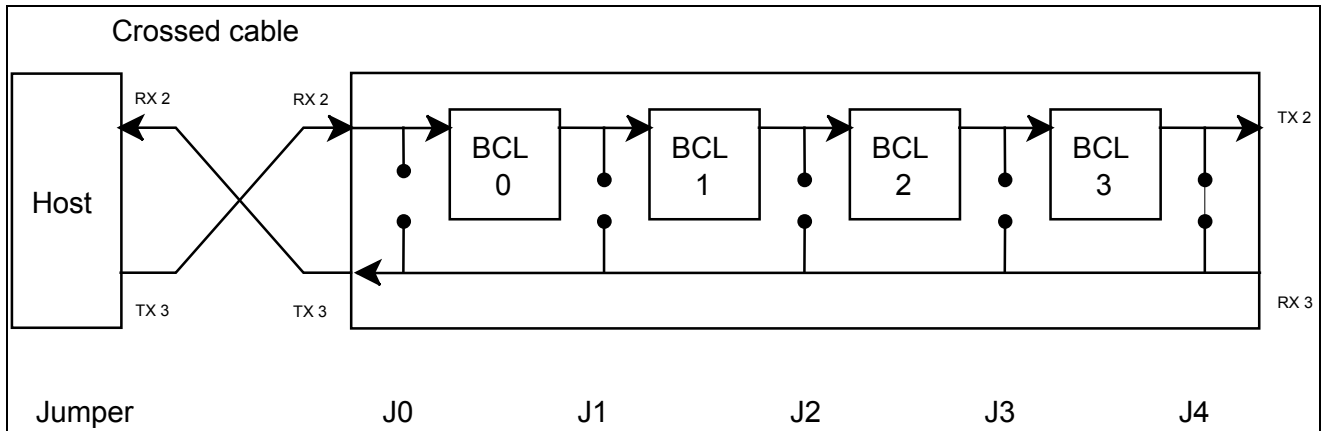
All the connected scanners only react on the address 0. This means an address will be decreased by 1 from scanner to scanner until it is 0. The scanner which receives the 0 was to be addressed.

All telegrams from BCL to the host, will be increased from each subscriber by 1. The host receives the [R and address #].



Example

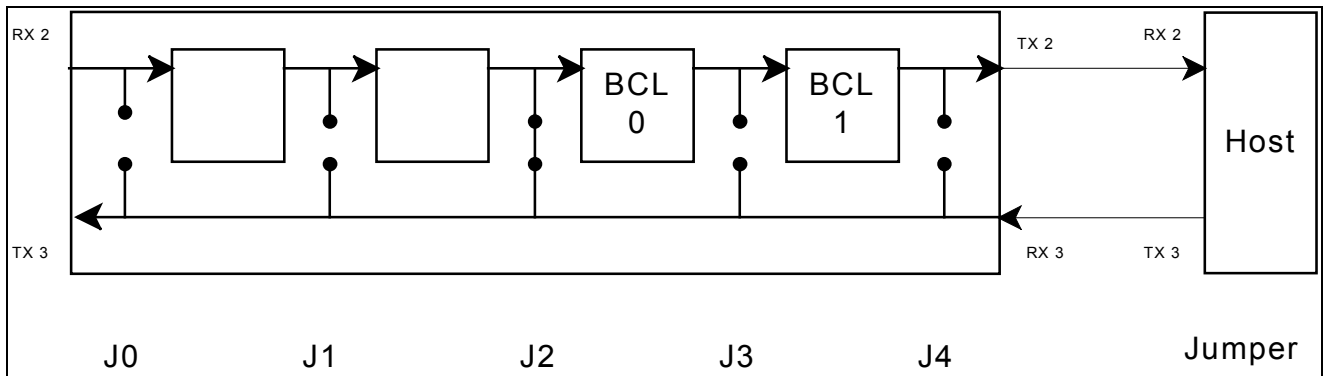
Fig 1: With 4 BCL's, the following communication takes place.
(E.g.: Transmitting a [V]-command to BCL # 2).



```

HOST : S2V----->BCL0
          BCL0 : S1V-->BCL1
                    BCL1 : S0V-->BCL2
                              BCL2 : R0BCL22->BCL3
HOST <----- R1BCL22<-BCL3
  
```

Fig 2: straight cable to the host; 2 BCL 22
(E.g.: Reset [H] to all connected (Broadcast) BCL 22).



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BCL0 <----- Host : B0H
BCL0 : B0H-->BCL1
          BCL1 : B0H----->Host
          BCL1 : S0S----->Host
BCL0 : S0S---->BCL1
          BCL1 : S1S----->Host
  
```



Commands:

S = Transmit address scanner #;

R = Reaction of scanner # ;

B = Broadcast: Command to all subscriber.

Stuctur.:Example with 4 subscriber (Scannern)

Address 0; Address 1; Address 2; Address 3

Command	Online com.	Address	String	Reaction
Software version	V	3	S3V	R0 + SW Vers.
	V	0	S0V	R3 + SW Vers.
Activation of the scanner	+	1	S1+	R2[DATA]
AutoConfig activate	CA+	2	S2CA+	R1CS0
AutoConfig read				R1[DATA]
AutoConfig memory	CA-	2	S2CA-	R1CS0
Broadcast / activation of the scanner	B0 (e.g.+)	all	B0+	all activ
Broadcast / deactivation of the scanner	B0 (e.g.-)	all	B0-	all deactive

All Online-Commands (compare operating manual BCL 22) can be used.

BCL Config Default

All commands – addresses and online-strings- can be transmitted via the standard terminal program of the BCL Config software (or other terminal programs).

BCL Config Setup Daisy Chain

The BCLConfig Program offers besides the default a comfortable setup alternative. In the menu „*options: Config serial device: Protocol*“, one can choose the mode *Daisy Chain*. This alternative offers the advantage that the subscriber can be choosen and the program automatically adds the address parameters [S+ address]. Also the upload and download of parameters can be made.

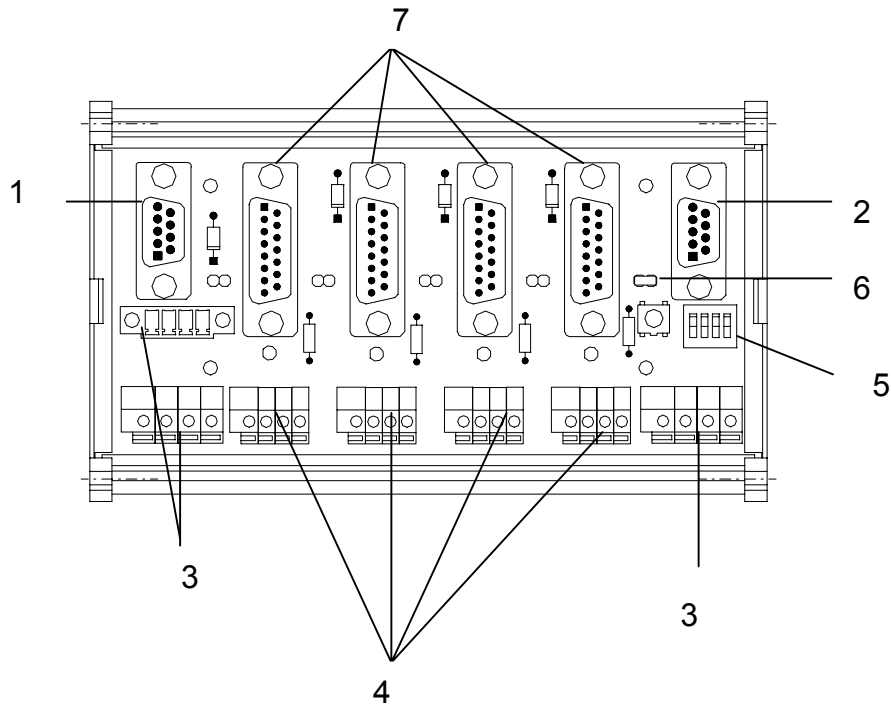
The address can be choosen „*Options: Device Id increment / decrement*“ or via hot key.

Ctrl I	for increment
Ctrl D	for decrement

The command *Broadcast* is in this menu not possible. This can only be made in the standard set up *Protokoll multiNet slave*.



Elements of the connecting unit MA 22 DC



- | | | |
|---|---|--|
| 1 | Host connection: | 9 pol Sub-D plug, TX Pin 3; RX Pin 2 |
| 2 | Connection of a scnd MA 22 DC: | 9 pol Sub-D Stecker, TX Pin 2; RX Pin 3 |
| 2 | Alternative host interface : | 9 pol Sub-D Stecker, TX Pin 2; RX Pin 3, |
| 3 | Central power connector and switching input | |
| 4 | Switching in-/output for each scanner | |
| 5 | Service interface: | each single scanner can be switched into service mode |
| 6 | Jumper: | the bridge after the last scanner must be closed |
| 7 | Connectors for BCL 22 | 15 pol Sub-D for BCL 22. All subscribers must be mounted without gap on the MA 22 DC |

Mounting

The MA 22 DC is foreseen for mounting on C-bars and hat bars.

Dimensions: 150mm 90mm 40mm