

Z301A

ECS LAN Router

3-349-465-03
1/9.12

- Star connection of the ECS LAN
- 2-wire input, and 4-wire output with ECS booster
- Baud rate can be set with a DIL switch
- Transparent performance within the ECS LAN



Application

Star Connection of the ECS LAN

The ECS LAN router allows for star connection of the ECS LAN. The input uses 2-wire connection, and each ECS LAN router has one 4-wire output equipped with an ECS LAN booster.

DIL Switch for Baud Rate Setting

The baud rate can be set with a DIL switch (62.5, 125 or 375 kBaud, default setting: 62.5 kBaud), and the ECS LAN terminating resistor for the 2-wire input can be connected or disconnected with a DIL switch as well (default-setting: disconnected). The housing must be opened to this end.

Transparent Performance Within the ECS LAN

The device is fully transparent within the ECS LAN, and assignment of an ECS LAN address is unnecessary.

ECS LAN Booster

- The 4-wire ECS LAN output is equipped with a booster in order to increase transmission distance. As opposed to the RS 485 standard (1200 m at 60 kBit), distance is increased by a factor of 4 to 8 by means of a special pre-emphasis process.
- Two boosters are required for each transmission path; one booster is looped into each transmission cable directly at the ECS LAN input (I/O+ / I/O-).
- Connections are even possible in the case of cables with high capacitive loads up to a loop resistance value of approximately 800 Ω . For cables with negligible capacitive loads, the absolute limit value for loop resistance is 2500 Ω (practically irrelevant).
- The booster effect is ideal at 62.5 kBaud, but the integrated booster can be operated at higher baud rates as well. At 125 kBaud, a slight pre-emphasis effect is still achieved, but this is no longer the case at 375 kBaud.

Note: U1650 ECS LAN boosters can only be operated at 62.5 kBaud.

Order Information

Type	Article Number
ECS LAN Router	Z301A

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ECS LAN Router

DIL Switch

The baud rate for bus left (2-wire) and bus right (4-wire) is set with the help of a 6-position DIL switch (the housing has to be opened):

BL-2W	1	2	3
62.5 k	Off	Off	Off
125 K	On	Off	Off
375 K	Off	On	Off

RL-4W	4	5	6
62.5 k	Off	Off	Off
125 K	On	Off	Off
375 K	Off	On	Off

The ECS LAN terminating resistor (bus left, 2-wire) is set with the help of a 2-position DIL switch (the housing has to be opened):

BL-TERM	1	2
Terminated	On	On
Open	Off	Off

Status LED

The following operating states are indicated by means of the green LED at the front:

LED	Meaning
Off	Auxiliary power not connected
On	Bus left and bus right detected
1.0 s on / 1.0 s off	No ECS LAN connected
0.3 s on / 0.7 s off	Bus left detected, but not bus right
0.7 s on / 0.3 s off	Bus right detected, but not bus left
0.25 s on / 0.25 s off	Bus error
0.06 s on / 0.06 s off	Parameters configuration error

Power Supply

Operating voltage 20 to 70 V DC, 2 VA

Electrical Safety

In accordance with EN 60950
 Protection Housing: IP 20 per DIN VDE 0470, part 1 / EN 60529

Electromagnetic Compatibility (EMC)

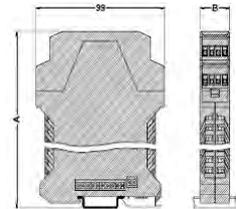
Interference emission EN 50090-2-2: 2007
 Interference immunity EN 50090-2-2: 2007

Ambient Conditions

Operating temp. 0° C to +50° C
 Storage temp. -25° C to +50° C
 Relative humidity 20% to 90%, no condensation allowed

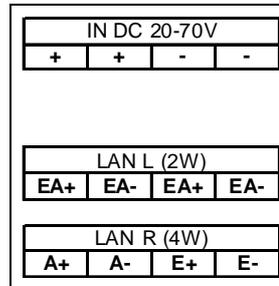
Mechanical Design

Housing width [B] 22.5 mm
 Housing height [A] 114.5 mm
 Housing depth 99 mm



Data Interface

Connector pin assignments



Wiring Diagram

