

**Ethernet IP**  
**Ethernet Gateways**

- Modular I/O
- IP 67 Protection
- Fieldbus Independent Configuration
- Various I/O Styles



**BL67-GW-EN-IP**  
**BL67-PG-EN-IP**



**Electrical**

- Operating Current: <math>< 600 \text{ mA}</math> from  $V_{MB}$
- Input Supply Current: <math>< 4 \text{ A}</math> (from  $V_I$ )
- Output Supply Current: <math>< 8 \text{ A}</math> (from  $V_O$ )
- Backplane Current: <math>< 1.5 \text{ A}</math> (from  $V_{MB}$ )

**Mechanical**

- Operating Temperature:  $-12$  to  $+55^\circ\text{C}$  ( $-13$  to  $+131^\circ\text{F}$ )
- Protection: IP 67
- Vibration:  $5 \text{ g @ } 10\text{-}500 \text{ Hz}$

**Material**

- Housing: PC-V0 (Lexan)

**Diagnostics (Logical)**

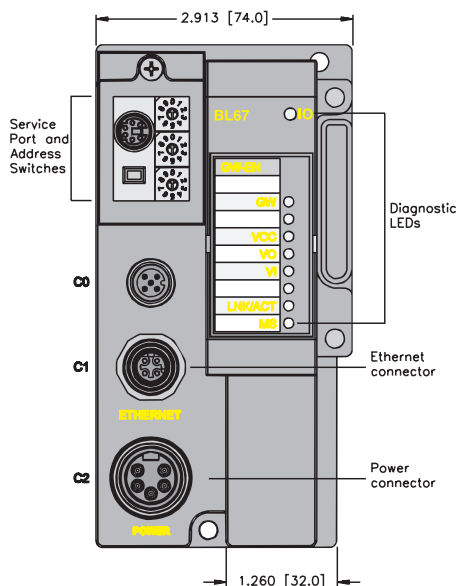
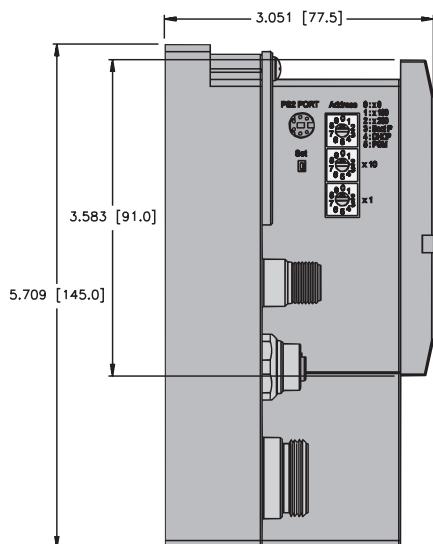
- Diagnostic information available through the system I/O map

**Diagnostics (Physical)**

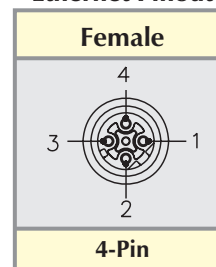
- LEDs to indicate status of Network and Module Bus communication

**Programmability**

- PG in part number designates a programmable gateway
- Programmable according to IEC 61131.3 using CodeSys (includes ladder logic)
- Use CodeSys to create logic programs to control local I/O

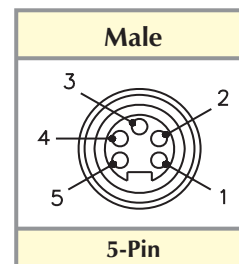


**Ethernet Pinout**



- 1 = TD+
- 2 = RD-
- 3 = TD-
- 4 = RD+

**5-pin minifast® Power Pinout**



- 1 = Gnd
- 2 = Gnd
- 3 = PE
- 4 =  $V_I$
- 5 =  $V_O$

**Modbus TCP/IP Gateways**



- Modular I/O
- IP 20 Protection
- Fieldbus Independent Configuration
- Various I/O Styles

**Electrical**

- Operating Current: <430 mA from BR power supply ( $U_{sys}$ )
- Supply Current: <10 A to I/O (from  $U_L$ )  
<1.5 A to backplane (from  $U_{sys}$ )

**Mechanical**

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20
- Vibration: 1 g @ 5-100 Hz

**Material**

- Housing: PC-V0 (Lexan)

**Diagnostics (Logical)**

- Diagnostic information available through the PROFIBUS-DP interface

**Diagnostics (Physical)**

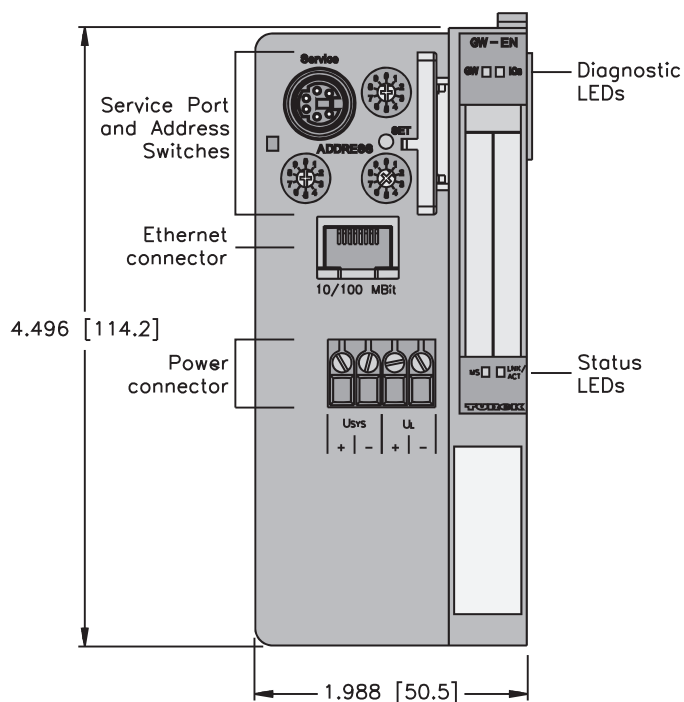
- LEDs to indicate status of PROFIBUS-DP and Module Bus communication

**Programmability**

- PG in part number designates a programmable gateway
- Programmable according to IEC 61131.3 using CodeSys (includes ladder logic)
- Use CodeSys to create logic programs to control local I/O

BL20-GW-EN

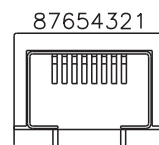
BL20-PG-EN



**Power Connectors**



**RJ45 Ethernet Standard**



- 1 = WH/or (+TX)
- 2 = OR (-TX)
- 3 = WH/GN (+RX)
- 4 = BU
- 5 = WH/BU
- 6 = GN (-RX)
- 7 = WH/BN
- 8 = BN

**PROFIBUS-DP Gateway**



- Modular I/O**
- IP 20 Protection**
- Fieldbus Independent Configuration**
- Various I/O Styles**

**Electrical**

- Operating Current: <430 mA from BR power supply ( $U_{SYS}$ )
- Supply Current: <10 A to I/O (from  $U_L$ )  
<1.5 A to backplane (from  $U_{SYS}$ )

**Mechanical**

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20
- Vibration: 1 g @ 5-100 Hz

**Material**

- Housing: PC-V0 (Lexan)

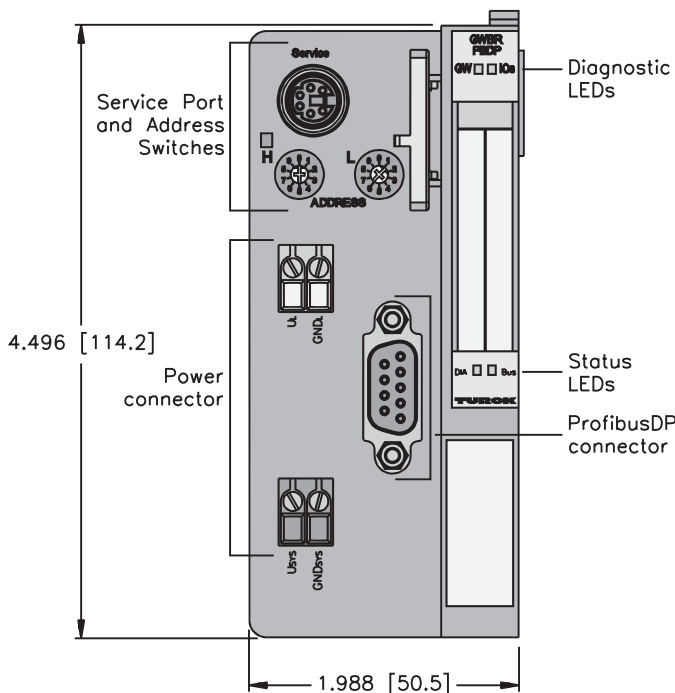
**Diagnostics (Logical)**

- Diagnostic information available through the PROFIBUS-DP interface

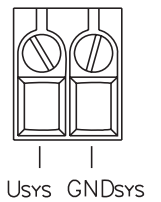
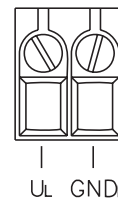
**Diagnostics (Physical)**

- LEDs to indicate status of PROFIBUS-DP and Module Bus communication

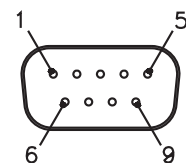
**BL20-GW-DPV1**



**Power Connectors**



**PROFIBUS-DP Connector**



- 1 = Shield
- 3 = BUS\_B
- 5 = DGnd
- 6 = +5 VDC
- 8 = BUS\_A

DeviceNet Gateway



BL20-GWBR-DNET



- Modular I/O
- IP 20 Protection
- Fieldbus Independent Configuration
- Various I/O Styles

**Electrical**

- Operating Current: <250 mA from BR power supply
- Supply Current: <10 A to I/O (from  $U_L$ )  
<1.5 A to backplane (from  $U_{SYS}$ )

**Mechanical**

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20
- Vibration: 1 g @ 5-100 Hz

**Material**

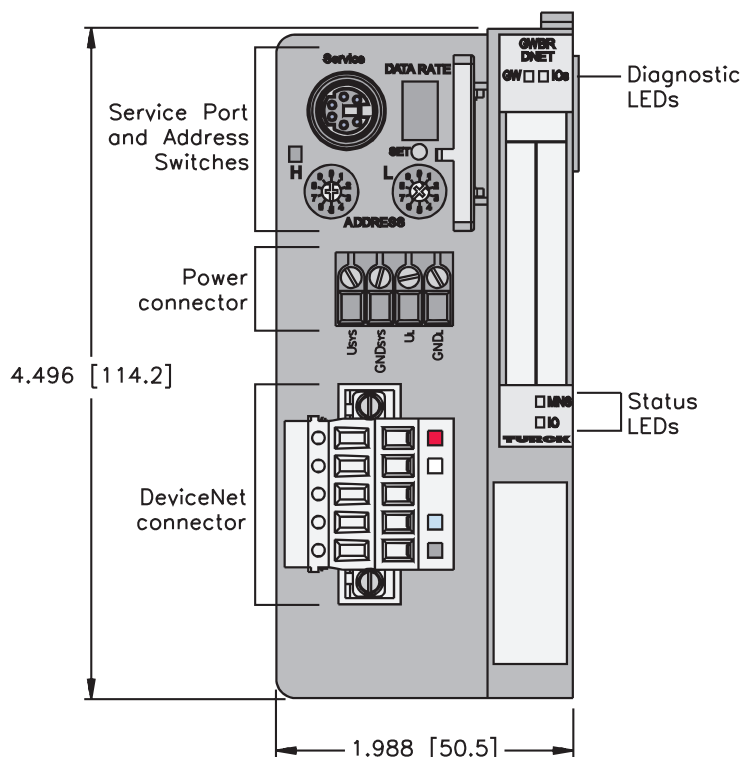
- Housing: PC-V0 (Lexan)

**Diagnostics (Logical)**

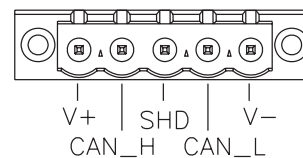
- Diagnostic information available through the DeviceNet I/O map

**Diagnostics (Physical)**

- LEDs to indicate status of DeviceNet and Module Bus communication

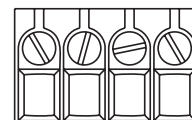


**DeviceNet Connector**

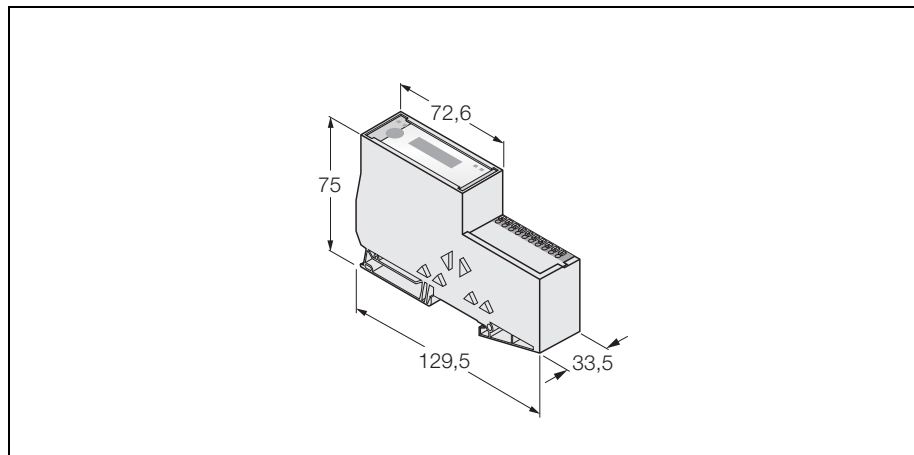


**Power Connection**

- 1 =  $U_{SYS}$
- 2 =  $Gnd_{SYS}$
- 3 =  $U_L$
- 4 =  $Gnd_L$



**gateway for BL20 I/O system  
interface for PROFIBUS-DP  
BL20-E-GW-DP**



- DIP switch for adjustment of the node address
- Protection class IP20
- 2 x end brackets BL20-WEW35/2-SW
- 1 x end plate BL20-ABPL
- with integrated supply
- LEDs for display of supply voltage, common alarm and bus errors
- interface between the BL20 system and PROFIBUS-DPV0/DPV1
- 12 Mbit/s
- push in clamps

**Field supply/system supply**



<b>Type</b>	BL20-E-GW-DP
Ident-No.	6827250 M6827250
<b>Supply voltage</b>	24VDC
System power supply	24 VDC / 5 VDC
Field supply	24 VDC
Admissible range	18...30 VDC
Rated current from module bus	≤ 430 mA
Max. field supply current	10 A
Max. system supply current	1 A
Voltage supply connection	Push-in clamps
<b>Fieldbus transmission rate</b>	9.6 kbps up to 12 Mbps
Fieldbus addressing	per DIP switch
Fieldbus addressing range	1...126
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection technology	Push-in clamps
Fieldbus termination	per DIP switch
<b>Number of diagnostic bytes</b>	3
Number of parameter bytes	5
<b>Dimensions (W x L x H)</b>	33.5 x 129.5 x 74.4 mm
Approvals	cULus, Zone2, ClassI, Div.2.
Operating temperature	0 to +55 °C
Storage temperature	-25 to +85 °C
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45 °C storage)
Vibration test	acc. to EN 61131
Shock test	acc. to IEC 68-2-27
Drop and topple	acc. to IEC 68-2-31 and free fall to IEC 68-2-32
Electro-magnetic compatibility	acc. to EN 50,082-2
Protection class	IP20
<b>Included in scope of supply</b>	2 x end brackets BL20-WEW-35/2-SW, 1 x end plate BL20-ABPL

**Functional principle**

BL20 gateways are the head component of a BL20 station. They are designed to interface the modular fieldbus nodes to the higher level fieldbus (PROFIBUS-DP, DeviceNet, CANopen, Ethernet).

All BL20 electronic modules communicate over the internal module bus, the data of which is transferred to the fieldbus via the gateway, so that all I/O modules can be configured independently of the bus system.

PROFIBUS-DP Gateway



BL67-GW-DPV1  
BL67-PG-DP



- Modular I/O
- IP 67 Protection
- Fieldbus Independent Configuration
- Various I/O Styles

**Electrical**

- Operating Current: < 50 mA from  $V_I$
- Supply Current: < 10 A to I/O (from  $V_I$  and  $V_O$ )
- Backplane Current: < 1.5 A (from  $V_I$ )

**Mechanical**

- Operating Temperature: -25 to +55°C (+32 to +131°F)
- Protection: IP 67
- Vibration: 5 g @ 10-500 Hz

**Material**

- Housing: PC-V0 (Lexan)

**Diagnostics (Logical)**

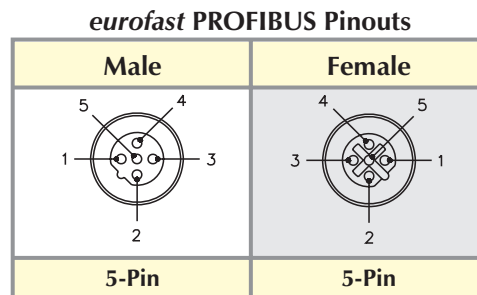
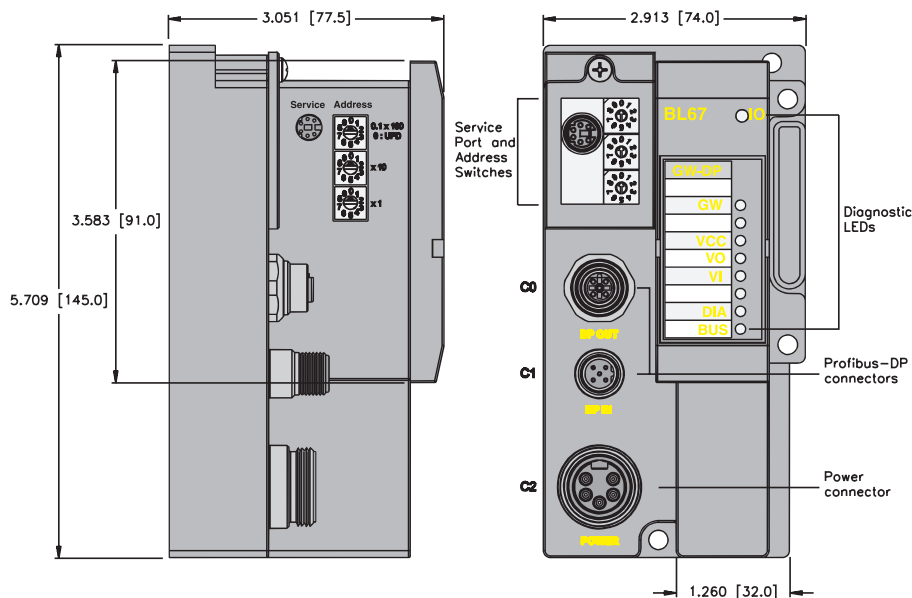
- Diagnostic information available through the PROFIBUS-DP interface

**Diagnostics (Physical)**

- LEDs to indicate status of PROFIBUS-DP and Module Bus communication

**Programmability**

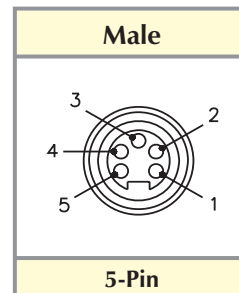
- PG in part number designates a programmable gateway
- Programmable according to IEC 61131.3 using CodeSys (includes ladder logic)
- Use CodeSys to create logic programs to control local I/O



- 1 = 5 VDC\*
- 2 = BUS\_A
- 3 = Gnd
- 4 = BUS\_B

- 5 = Shield
- \* Female connector only

**minifast Power Pinouts**



- 1 = Gnd
- 2 = Gnd
- 3 = PE
- 4 =  $V_I$
- 5 =  $V_O$

Note: Power feeding modules may be used for I/O current supply to prevent overloading the gateway power supply.

## Profinet Ethernet Gateways



### BL67-GW-EN-PN



- Modular I/O
- IP 67 Protection
- Fieldbus Independent Configuration
- Various I/O Styles

### Electrical

- Operating Current: <math>< 600 \text{ mA}</math> from  $V_{MB}$
- Input Supply Current: <math>< 4 \text{ A}</math> (from  $V_I$ )
- Output Supply Current: <math>< 8 \text{ A}</math> (from  $V_O$ )
- Backplane Current: <math>< 1.5 \text{ A}</math> (from  $V_{MB}$ )

### Mechanical

- Operating Temperature:  $-12$  to  $+55^\circ\text{C}$  ( $-13$  to  $+131^\circ\text{F}$ )
- Protection: IP 67
- Vibration:  $5 \text{ g}$  @  $10\text{-}500 \text{ Hz}$

### Material

- Housing: PC-V0 (Lexan)

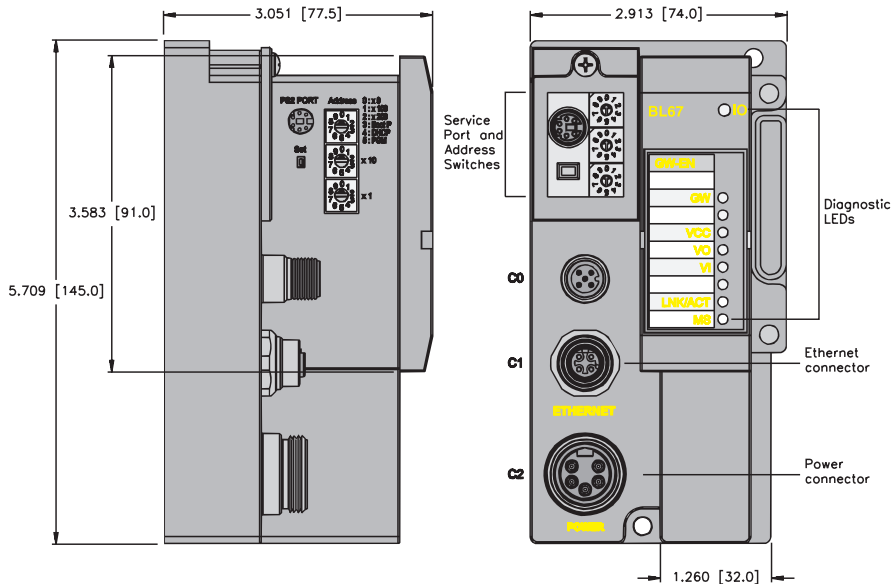
### Diagnostics (Logical)

- Diagnostic information available through the system I/O map

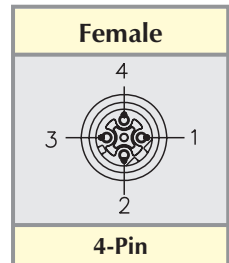
### Diagnostics (Physical)

- LEDs to indicate status of Network and Module Bus communication

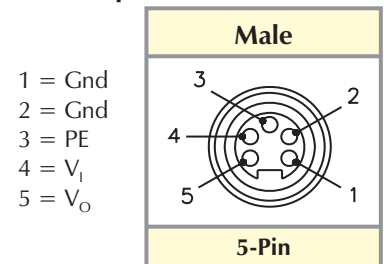
BL67



### Ethernet Pinout



### 5-pin minifast® Power Pinout



## ModBus TCP/IP Ethernet Gateways



**BL67-GW-EN**  
**BL67-PG-EN**



- Modular I/O
- IP 67 Protection
- Fieldbus Independent Configuration
- Various I/O Styles

### Electrical

- Operating Current: <math>< 600 \text{ mA}</math> from  $V_{MB}$
- Input Supply Current: <math>< 4 \text{ A}</math> (from  $V_I$ )
- Output Supply Current: <math>< 8 \text{ A}</math> (from  $V_O$ )
- Backplane Current: <math>< 1.5 \text{ A}</math> (from  $V_{MB}$ )

### Mechanical

- Operating Temperature:  $-12$  to  $+55^\circ\text{C}$  ( $-13$  to  $+131^\circ\text{F}$ )
- Protection: IP 67
- Vibration:  $5 \text{ g}$  @  $10\text{-}500 \text{ Hz}$

### Material

- Housing: PC-V0 (Lexan)

### Diagnostics (Logical)

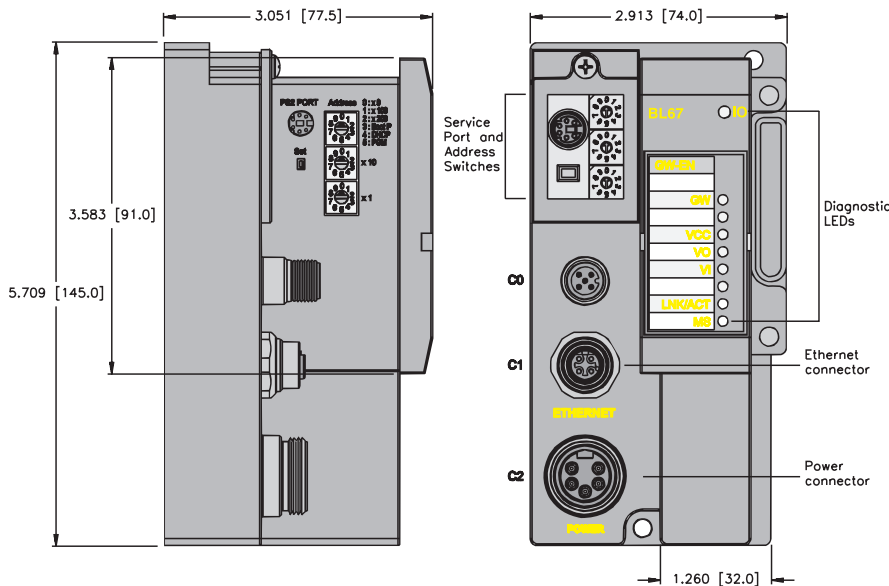
- Diagnostic information available through the system I/O map

### Diagnostics (Physical)

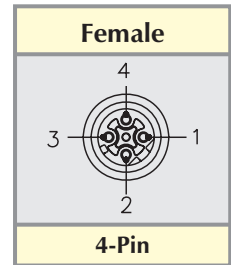
- LEDs to indicate status of Network and Module Bus communication

### Programmability

- PG in part number designates a programmable gateway
- Programmable according to IEC 61131.3 using CodeSys (includes ladder logic)
- Use CodeSys to create logic programs to control local I/O

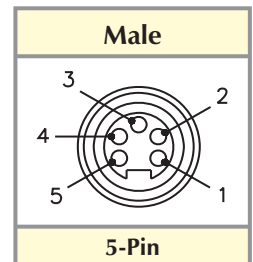


### Ethernet Pinout



- 1 = TD+
- 2 = RD+
- 3 = TD-
- 4 = RD-

### 5-pin minifast® Power Pinout



- 1 = Gnd
- 2 = Gnd
- 3 = PE
- 4 =  $V_I$
- 5 =  $V_O$

**DeviceNet Gateway**

- Modular I/O
- IP 67 Protection
- Fieldbus Independent Configuration
- Various I/O Styles



**BL67-GW-DN**



**Electrical**

- Operating Current: <math>< 600 \text{ mA}</math> from  $V_{MB}$
- Supply Current: <math>< 8 \text{ A}</math> to I/O (from DeviceNet)
- Backplane Current: <math>< 1.5 \text{ A}</math> (from DeviceNet)

**Mechanical**

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 67
- Vibration: 5 g @ 10-500 Hz

**Material**

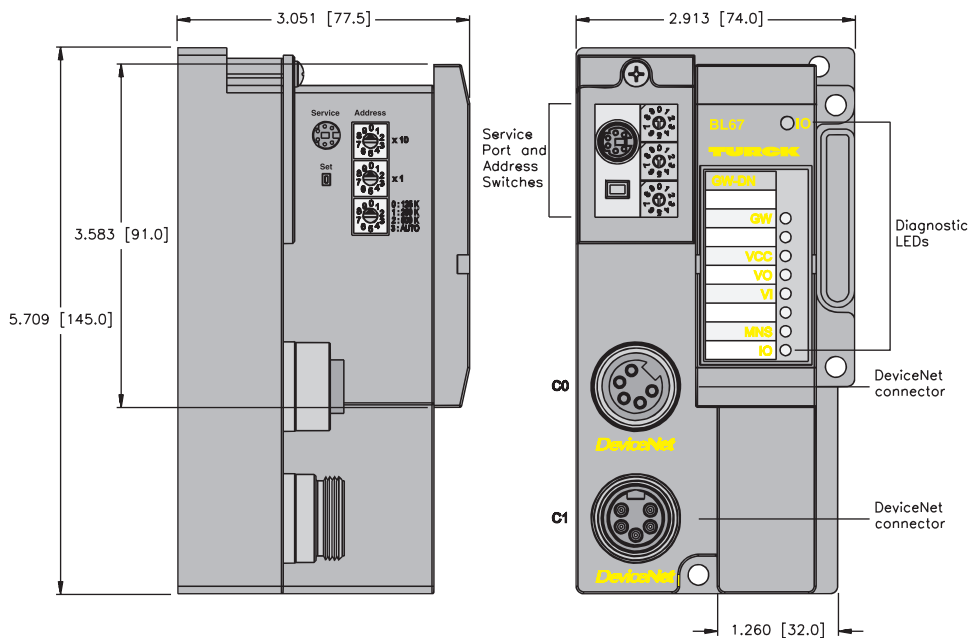
- Housing: PC-V0 (Lexan)

**Diagnostics (Logical)**

- Diagnostic information available through the DeviceNet I/O map

**Diagnostics (Physical)**

- LEDs to indicate status of DeviceNet and Module Bus communication



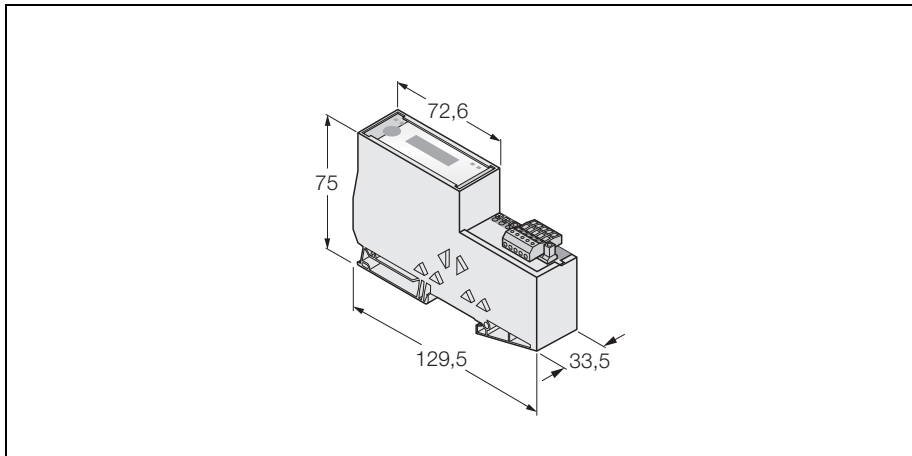
**DeviceNet minifast® Pinouts**

Male	Female
<b>5-Pin</b>	<b>5-Pin</b>

- 1 = Shield
- 2 = V+
- 3 = V-
- 4 = CAN\_H
- 5 = CAN\_L

Note: Power feeding modules may be used for I/O current supply to prevent overloading the DeviceNet power supply.

**gateway for BL20 I/O system  
interface for DeviceNet  
BL20-E-GW-DN**



- DIP switch for adjustment of the node address
- Protection class IP20
- 2 x end brackets BL20-WEW35/2-SW
- 1 x end plate BL20-ABPL
- with integrated supply
- LEDs for display of supply voltage, common alarm and bus errors
- Interface between BL20 system and DeviceNet
- 125 / 250 / 500 kbps
- The connection to DeviceNet™ is established via an open-style connector

<b>Type</b>	BL20-E-GW-DN
Ident-No.	6827301 M6827301
<b>Supply voltage</b>	24VDC
System power supply	24 VDC / 5 VDC
Field supply	24 VDC
Admissible range	18...30 VDC
Rated current from module bus	≤ 250 mA
Max. field supply current	10 A
Max. system supply current	0.7 A
Voltage supply connection	Push-in clamps
<b>Fieldbus transmission rate</b>	125/250/500 kbps, DIP switch
Fieldbus addressing	per DIP switch
Fieldbus addressing range	0...63
Service interface	PS/2 socket for I/O-ASSISTANT
Fieldbus connection technology	open connector
Fieldbus termination	per DIP switch
<b>Dimensions (W x L x H)</b>	33.5 x 129.5 x 74.4 mm
Approvals	cULus, Zone2, ClassI, Div.2.
Operating temperature	0 to +55 °C
Storage temperature	-25 to +85 °C
Relative humidity	5 to 95% (internal), Level RH-2, no condensation (at 45 °C storage)
Vibration test	acc. to EN 61131
Shock test	acc. to IEC 68-2-27
Drop and topple	acc. to IEC 68-2-31 and free fall to IEC 68-2-32
Electro-magnetic compatibility	acc. to EN 50,082-2
Protection class	IP20
<b>Included in scope of supply</b>	2 x end brackets BL20-WEW-35/2-SW, 1 x end plate BL20-ABPL

**Field supply/system supply**



**Functional principle**

BL20 gateways are the head component of a BL20 station. They are designed to interface the modular fieldbus nodes to the higher level fieldbus (PROFIBUS-DP, DeviceNet, CANopen, Ethernet).

All BL20 electronic modules communicate over the internal module bus, the data of which is transferred to the fieldbus via the gateway, so that all I/O modules can be configured independently of the bus system.

Ethernet/IP Gateways



- Modular I/O
- IP 20 Protection
- Fieldbus Independent Configuration
- Various I/O Styles

Electrical

- Operating Current: <math>< 430 \text{ mA}</math> from BR power supply ( $U_{\text{SYS}}$ )
- Supply Current: <math>< 10 \text{ A}</math> to I/O (from  $U_{\text{L}}$ )  
<math>< 1.5 \text{ A}</math> to backplane (from  $U_{\text{SYS}}$ )

Mechanical

- Operating Temperature: 0 to +55°C (+32 to +131°F)
- Protection: IP 20
- Vibration: 1 g @ 5-100 Hz

Material

- Housing: PC-V0 (Lexan)

Diagnostics (Logical)

- Diagnostic information available through the PROFIBUS-DP interface

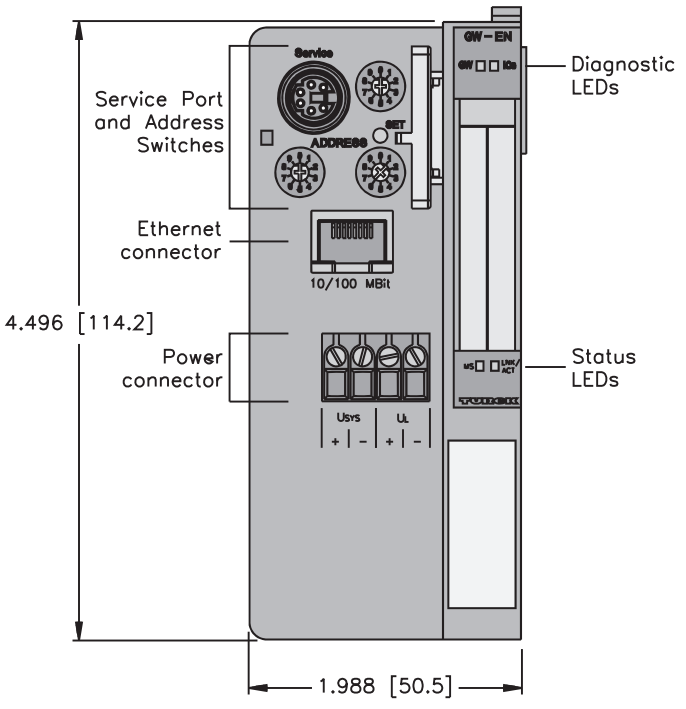
Diagnostics (Physical)

- LEDs to indicate status of PROFIBUS-DP and Module Bus communication

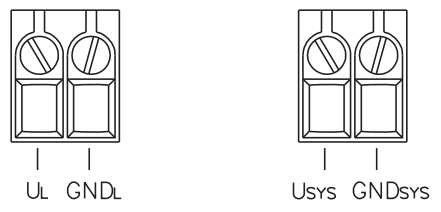
Programmability

- PG in part number designates a programmable gateway
- Programmable according to IEC 61131.3 using CodeSys (includes ladder logic)
- Use CodeSys to create logic programs to control local I/O

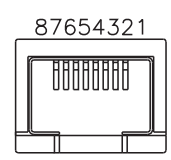
BL20-GW-EN-IP  
BL20-PG-EN-IP



Power Connectors



RJ45 Ethernet Standard



- 1 = WH/or (+TX)
- 2 = OR (-TX)
- 3 = WH/GN (+RX)
- 4 = BU
- 5 = WH/BU
- 6 = GN (-RX)
- 7 = WH/BN
- 8 = BN

BL20