



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA0000034
Revision No:
5

This is to certify:

that the **Peripheral Equipment**

with type designation(s)
Remote I/O LB/FB/MFT

issued to

Pepperl+Fuchs SE
Mannheim, Baden-Württemberg, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature D

Humidity B

Vibration A*

EMC A*

Enclosure Required protection according to DNV Rules shall be provided upon installation on board

*** see Application/Limitation on page 4**

Issued at **Hamburg** on **2025-12-03**

This Certificate is valid until **2030-05-07**.

DNV local unit: **Augsburg**

for **DNV**

Approval Engineer: **Holger Jansen**

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This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

LB and FB remote I/O modules are signal conditioning devices for interfacing signals from the field to controllers or process control systems. The modules have simple plug and play design.

Type	Type designation – FB Modules	Description
1	Backplanes	
BP	FB9262BP20220.2	Universal FB enclosure to accept I/O modules, communication units and power supplies
BP	FB9262BP10220.2	Universal FB enclosure to accept I/O modules, communication units and power supplies
BP	FB9271BP00200.0	Backplane for FB9205 power supply
2	Power supplies	
PS	FB9206D3	Power supply 24 V DC / 12 V & 5 V
PS	FB9215B2	Power supply 230 V AC / 24 V
PS	FB9205C	Power supply 95-230 V AC / 12 V & 5 V
3	Bus termination modules	
BT	FB9294B3	Bus termination module for field- and service bus
BT	FB9295B3	Bus termination module for field- and service bus
4	Communication units	
BC	FB8206H06xx.3 ⁽¹⁾	EasyCOM ComUnit (PROFIBUS)
BC	FB8207H07xx.3 ⁽¹⁾	MODBUS ComUnit
BC	FB8209H09xx.3 ⁽¹⁾	PROFIBUS ComUnit (UniCom)
5	Gateways	
GW	FB8220B.1.EL-AB	Gateway for Ethernet I/P
GW	FB8222B.1.EL	Gateway for PROFINET or HART-IP
GW	FB8240B.1.EL	Gateway Multiprotocol
6	Digital input	
BI	FB1203B3	Frequency / Counter input
BI	FB1208B3	Digital inputs with 8-channels
BI	FB1209B3	Digital inputs with 8-channels
7	Digital output with feedback	
BO/BI	FB2216E3	Digital output with 1 output with 2 feedback inputs
BO/BI	FB2217E3	Digital output with 1 output with 2 feedback inputs
8	Digital output (Relay)	
BO	FB6306B3	Relay output 8-channels
9	Digital output, active (high power source)	
BO	FB6210ER	Digital outputs with shutdown input, 4 independent channels
BO	FB6211ER	Digital outputs with shutdown input, 4 independent channels
BO	FB6215BR	Digital outputs with shutdown input, 4 independent channels
BO	FB6215BR.AT	Digital outputs with 4 independent channels
10	Digital output with shutdown input	
BO	FB6216E3	Digital outputs with shutdown input
BO	FB6217E3	Digital outputs with shutdown input
11	Analog input (current) HART	
AI	FB3205B3	Analog input 4-channel
12	Analog input (Voltage/Thermocouple)	
AI	FB5204B3	RTD converter
AI	FB5205B3	Thermocouple converter
13	Universal input / Output HART	
AI/AO	FB7204B3	Universal input/output (HART) with 4-channels
AI/AO	FB7204E3	Universal input/output (HART) with 4-channels

⁽¹⁾ The placeholder "xx" in the type designation is for Firmware Version

BP = Backplane; PS = Power supply; BT = Bus termination; BC = Communication Units; GW = Gateways; BI = Digital input; BO = Digital output; AI = Analog input; AO = Analog output

Type	Type designation – LB Modules	Description
1	Backplanes	
BP	LB9022BP22320.y ⁽¹⁾	Base backplanes for PROFIBUS DP, PROFIBUS DP V1, PROFINET and MODBUS RTU
BP	LB9023BP08110.y ⁽¹⁾	Base backplanes for PROFIBUS DP, PROFIBUS DP V1, PROFINET and MODBUS RTU
BP	LB9024BP24300.y ⁽¹⁾	Extension backplane with 24 slots I/O modules, fieldbus type determined by base backplane

2	Power supply	
PS	LB9006C	Power supply for 24 V
3	Communications units	
BC	LB8106H06xx ⁽²⁾	EasyCOM ComUnit (PROFIBUS)
BC	LB8107H07xx ⁽²⁾	MODBUS ComUnit
BC	LB8109H09xx ⁽²⁾	PROFIBUS ComUnit (UniCom)
4	Gateways	
GW	LB8120A.1.EL-AB	Gateway for Ethernet I/P
GW	LB8122A.1.EL	Gateway for PROFINET or HART-IP
GW	LB8140A.1.EL	Gateway Multiprotocol
5	Digital input	
BI	LB1103A	Frequency / Counter input
BI	LB1008A	Digital inputs with 8-channels
BI	LB1108A	Digital inputs with 8-channels
BI	LB1109A	Digital inputs with 8-channels
6	Digital output with feedback	
BO/BI	LB2116E	Digital output with 1 output with 2 feedback inputs
BO/BI	LB2117E	Digital output with 1 output with 2 feedback inputs
7	Digital output (Relay)	
BO	LB6006A2	Relay output 8-channels
8	Digital output, active (high power source)	
BO	LB6110ER	Digital outputs with shutdown input, 4 independence channels
BO	LB6111ER	Digital outputs with shutdown input, 4 independence channels
BO	LB6115AR	Digital outputs with 4 independence channels
9	Digital output with shutdown input	
BO	LB6116E	Digital outputs with shutdown input
BO	LB6117E	Digital outputs with shutdown input
10	Analog input (current) HART	
AI	LB3005A2	Analog input 4 channel
AI	LB3105A2	Analog input 4 channel
11	Analog input (Voltage/Themocouple)	
AI	LB5004A	RTD converter
AI	LB5104A	RTD converter
AI	LB5005A	Thermocouple converter
AI	LB5105A	Thermocouple converter
12	Universal input / output HART	
AI/AO	LB7104A	Universal input/output (HART) with 4-channels
AI/AO	LB7104E	Universal input/output (HART) with 4-channels
⁽¹⁾ The placeholder "y" in the module type designation is for the revision (Currently equipment is changed from 1 to 2 due to a maintenance-update). ⁽²⁾ The placeholder "xx" in the type designation is for Firmware Version BP = Backplane; PS = Power supply; BT = Bus termination; BC = Communication Units; GW = Gateways; BI = Digital input; BO = Digital output; AI = Analog input; AO = Analog output		

Type	Type designation LB/FB-accessories	Name
1	LB/FB- accessories	
Z	GHG4171902R0014	EMC line filter
Z	MFT-Base.2P	Socket for Multi Functional Terminal 2-pole
Z	MFT-Base.4P	Socket for Multi Functional Terminal 4-pole
Z	MFT-F.xxxx ⁽¹⁾	Multi Functional Terminal Fuse
Z	MFT-2F.xxxx ⁽¹⁾	Multi Functional Terminal Dual Fuse
Z	MFT-R.xxxx ⁽¹⁾	Multi Functional Terminal Resistor
Z	MFT-2R.xxxx ⁽¹⁾	Multi Functional Terminal Dual Resistor
Z	MFT-D.xxxx ⁽¹⁾	Multi Functional Terminal Diode
Z	MFT-2D.xxxx ⁽¹⁾	Multi Functional Terminal Dual Diode
Z	MFT-2L.xxxx ⁽¹⁾	Multi Functional Terminal Jumper
Z	MFT-FT.xxxx ⁽¹⁾	Multi Functional Terminal Bus Termination
Z	MFT-RNO.xxxx ⁽¹⁾	Multi Functional Terminal Relay; contact normal open
Z	MFT-RNC.xxxx ⁽¹⁾	Multi Functional Terminal Relay; contact normal closed
Z	MFT-T.xxxx ⁽¹⁾	Multi Functional Terminal Semiconductor Relay
Z	Sheet Metal brace left	Stabilization of modules
Z	Sheet Metal brace right	Stabilization of modules
Z	Sheet Metal bracket	Stabilization of modules

Z	Damper FB1	Stabilization of modules
Z	Damper FB2 single	Stabilization of modules
Z	Damper FB2 double	Stabilization of modules
(1) xxxx are placeholder for identifiers regarding different variants (e.g. value of resistor, value of fuse)		
Z = Accessories		

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Application/Limitation

*Emission and Immunity requirement:

- Hardware installed in metal cabinet
- EMC-Cable gland or separate screen rails inside the enclosure or
- Cabinet to connect the screen of the cables
- Shielded cables
- EMC line filter (only relevant for FB Remote I/O stations)

*Vibration requirement:

- Accessories "Sheet metal brace/bracket, Damper" (only relevant for FB Remote I/O stations)

More information can be found in Installation instruction.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021

Marking of product

The products to be marked with:

- manufacturer name: (Pepperl+Fuchs),
- model name
- serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE