



These operating instructions conform to:

- 2014/35/EU - Low-voltage Directive
- 2014/30/EU – EMC Directive.

SAFETY INSTRUCTIONS AND UNSUITABLE USE

Do not leave these instructions inside the box during operation!

- Avoid any **mechanical damage** of the box when manipulating!
- Boxes L.X. **are not intended for untrained personnel.** Installation, commissioning and any service must be performed by skilled electricians and in accordance with safety regulations.
- Boxes L.X. should be operated in accordance with above mentioned **operating conditions, technical data and data on name plates.**
- **Do not operate** boxes L.X. **in areas with explosion risk!**
- For **increased electromagnetic resistance** it is necessary **special design** of boxes including of cable glands.
- Storage, transport, assembly, installation, inspection, preventive maintenance, repairs and services are to follow instructions provided hereinafter.

1. USE

Junction boxes L.X. are determined for installation especially in industry and heavy-duty machinery.

2. OPERATING CONDITIONS

2.1 External influences acc.to IEC60364-5-51, cat. A: ENVIRONMENT

Code	Description of external influence	Specification
AA	Ambient temperature	-20°C to +40°C
AB	Atmospheric humidity	To +30°C... 100% To +40°C ... 70%
AD5	Presence of water	Jets
AE6	Presence of foreign solid bodies or dust	Heavy dust
AF4	Presence of corrosive or polluting substances	Continuous
AG3	Mechanical shock	High severity (7J)
AH	Vibrations	See art 7

2.2 External influences acc. to IEC 60364-5-51 - category B: USE

Code	Description of external effect	Specification
BA5	Capabilities of persons	Skilled
BC3	Contact of persons with earth potential	Frequent

2.3 Not mentioned external influences are acc. to IEC 60364-5-51 normal.

2.4 Operating position: optional

3. TECHNICAL DATA

3.1 General

Name	Specification	Standard, note
Ingress protection	min. IP 65	EN 60529
Electromagnetic compatibility	Resistant to EMI Not radiating EMI	need not be verified - see EN 60439-1
Material	L.X0	Al - die casting
	L.X1	Glass fibre reinforced polyester (GRP)
	L.X2	Stainless steel 17 246
Surface finish L.X0	powdered baking paint	grey RAL 7001
Combustibility of L.X1	Hardly inflammable and self-extinguishing	UL - S94.V – 0 (also halogen-free)
Protection class	I - L.X0, L.X2 II - L.X1 <input type="checkbox"/>	EN 61140
Rated short-time current	Max. 10 kA	EN 61439-1
External PE (L.X0, L.X2)	16 mm ² (L.X0, L.X2) 6 mm ² (L.X0)	2x screw M5 + clamping plate 1x screw M4 with shim

3.2 Terminals

Name	Specification	Standard, note
Rated voltage and current	See name plate	
Nominal cross section of connected wires	See name plate	
Resistance to vibration	Complies	DIN VDE 0607 §3.4.2.3 DIN VDE 0611 no. 1 to 4
Gas-proofing of contact	Complies	SS DIN 50021/VG95210

4. INSTALLATION INSTRUCTIONS

4.1 Mounting of the boxes L.X0, L.X1

Spacing of mounting holes is stated on the bottom of the box. Lift off the cover and insert attachment screws into holes and mount the box.

4.2 Mounting of the boxes L.X2

There are two various ways:

- **Directly** by screws M6 screwed up into "blind" holes in the box bottom from outwards.
- By using of the **fixing brackets** (fixed as described above) – than the box can be fixed from the front by screws M8.

4.3 Cable entries

Each cable gland can seal only a certain range of outside diameters of cables. In the case of more quantity of cable glands placed on the flange of box it is necessary to insert and tighten the cable into the cable gland subsequently from one side to the other side (for instance from the left to the right) and also to start with cable gland on the lower row and continue with the cable glands on the upon them.

For easier mounting of cable glands it is possible to deliver special tighten tongs – see picture. To achieve a reliable ingress protection properly tightens the cable glands by specified tightening torque. **Unused holes and openings** must be closed by plugs that comply with required ingress protection.



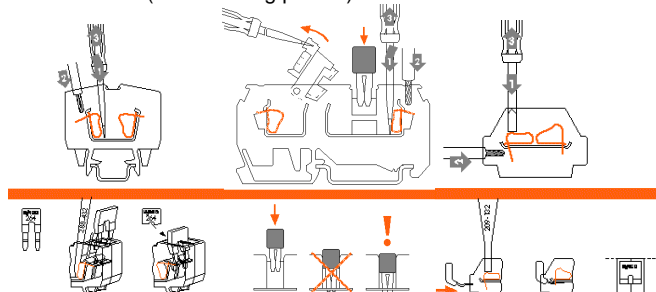
4.4 Connection of wires

There are used either the spring-cage terminals or screw terminals.

4.4.1 Spring cage terminals

Press a cage clamp of the terminal block (1) e.g. with a suitable screwdriver (or a special WAGO screwdriver) to unfasten space for the connection of a wire. By pushing of the wire (2) and releasing the cage clamp (3) a perfect current-carrying connection is created.

At connection of two adjacent terminal block, press the jumper with power into both terminal blocks so that it does not overreach the terminal block (see following picture).



At some types of terminals with cage clamp it is necessary to use a greater one terminal when connecting a wire with a ferrule. E.g. for connection of a 2,5 mm² wire with the ferrule, it is necessary to use a terminal block 4,0 mm².



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OPERATING INSTRUCTIONS

INDUSTRIAL JUNCTION BOXES

TYPE: **L.X.** (0 - aluminium, 1 - polyester, 2 - stainless steel)

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4.4.2 Screw terminals



Connect wires from the side of the terminal block and properly tight the connection. When **interconnect screw terminals**, properly tight screw jumpers.

If the PE or FE rail is installed and only one wire is to be connected to a terminal, it is necessary to bend the end of wire into a "U" shape so that the clamping plate compressing the wire is in-plane.

4.5 General requirements

Stranded wires always provide with ferrules. We recommend use ferrules also for full copper wires without surface protection and in **aggressive atmosphere**. Only one wire can be inserted in to the connection hole of terminal and its cross-section must not exceed nominal cross section of terminal. Wire insulation must reach as close the current-carrying connection as possible. The wire must not be damaged anyway.

We recommend regularly **treat connection points of protection wires** (or other corrosive metal surfaces) with **grease**, at least 1 a year (depending on the environment).

Unused dead wires should be connected to unoccupied terminal (including of protective wires) or terminated in a way complying with valid regulations

If you use **aluminium wires (up to 4mm²)** it is suitable to apply the WAGO contact paste "**Alu-Plus**" into the hole **before inserting the wire**. This destroys the oxide film, prevents fresh oxidation and electrolytic corrosion.

Connection points for protective earth wires in L.X0 boxes are supplied with a CUPAL washer. Cu wires are connected so they touch the copper side of this washer.

5. INSTALLATION ACC. TO VALID REGULATIONS

Use of boxes L.X. in specific areas must comply with above mentioned operating conditions, local operating regulations, standards and other related regulations.

Electrical accident protection is, in addition to said regulations, stipulated by IEC 60364-4-41, EN 61140 and follow-up regulations.

6. INSPECTION AND PREVENTIVE MAINTENANCE

Inspection and preventive maintenance of electrical equipment is determined by ČSN 331500 (unless determined otherwise by a notice, local regulations etc.).

All mechanical and electrical connections are protected from self-loosening. Vibration tests of equipment (external effects AH1, 2, 3 by IEC 60364-5-51) in relation to classes of climatic conditions by EN 60721-3-3 and EN 60721-3-4 are not however performed. That is why, in case of **mobile equipment**, we recommend **carry out inspections at least 2-times a year**.

Cable glands and plugs can be replaced only by types with appropriate ingress protection (IP 65.)

Where it is not possible to provide fixed installation of cables, it is necessary to use cable glands with a protection against pulling out (usually with clamping module) - it relates mostly to **mobile equipment**.

Other spare parts - see article 11.

7. REPAIRS AND MAJOR INSPECTIONS, SERVICE

Repairs should be carried out by the manufacturer or an organization authorized by the manufacturer.

Following parts **must not be repaired**:

- Terminal blocks, cable glands and plugs
- Sealing and stainless steel screws in the cover

If damaged, these parts must be replaced.

In case of any problems regarding the GENERI products (such as loss of accompanying documents, technical defects etc.), just read **type** of equipment and **serial number** No. from the rating plate.

On the basis of these data it is possible to find any accompanying and technical documents of concrete product at manufacturer.

8. STORAGE, PACKING AND TRANSPORT

Boxes L.X. are to be **stored** at the ambient temperature of +5°C to +40°C, in non-aggressive interior areas without the UV radiation and weather conditions where the quality does not deteriorate (climatic conditions 1K2, biological conditions 1B1, active chemical compounds 1C2, mechanically active substances 1S1, and mechanical conditions 1M2 (EN 60721-3-1).

Boxes L.X. are **packed** in protective foils and supplied in cardboard boxes (bigger boxes can be attached to pallets).

Transport is provided by an express transport company within 24 hours, or depending of a customer's wish. Cash on delivery is also possible.

Transport conditions are 2K2, 2B1, 2C2, 2S1, 2M2 (EN 60721-3-2).

9. DELIVERY TERMS

Price, delivery terms, methods of payment and transport are mentioned in a purchase contract.

10. SPARE PARTS

Just read type and serial number from rating plate and contact the manufacturer for required spare part.



11. PRODUCT DISPOSAL

Useless products should be disposed of in accordance with valid regulations.

!!! All components may produce harmful fumes during combustion processes!!!

12. ACCOMPANYING DOCUMENTS

- ☐ EU declaration of conformity
- ☐ These operating instructions incl. of warranty
- ☐ Delivery note

WARRANTY

Product type:	L.X0	L.X1	L.X2
Mark:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Serial number No.:	from:		to:

You are provided with a warranty for a period of 12 months (if it is not specified otherwise in the purchase contract) valid from the day the product was handed over. We guarantee quality of work and material. Despite this, faults unidentifiable in the manufacturing plant may occur due to storage, during transport or use. If they were caused by faulty material or production, we shall restore the product to a trouble-free state at our own costs. The warranty does not apply to defects resulting from mishandling or mechanical damage and not following instructions for assembly and maintenance.

FINAL INSPECTION		
Authorised person:	Result:	Stamp and signature:
	OK	



ISO 9001

WE WISH YOU MAXIMUM SATISFACTION WITH OUR PRODUCTS AND SERVICES

