

# WAGO → I/O → SYSTEM 750

## Fieldbus Independent I/O Modules

### 24 V DC Power Supply/Fuse/Diagn. 750-610



## Manual

Version 1.0.2

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Every conceivable measure has been taken to ensure the correctness and completeness of this documentation. However, as errors can never be fully excluded, we would appreciate any information or ideas at any time.

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We wish to point out that the software and hardware terms as well as the trademarks of companies used and/or mentioned in the present manual are generally trademark or patent protected.

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# 1 Important Comments

To ensure fast installation and start-up of the units described in this manual, we strongly recommend that the following information and explanations are carefully read and abided by.

## 1.1 Legal Principles

### 1.1.1 Copyright

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### 1.1.2 Personnel Qualification

The use of the product detailed in this manual is exclusively geared to specialists having qualifications in PLC programming, electrical specialists or persons instructed by electrical specialists who are also familiar with the valid standards. WAGO Kontakttechnik GmbH & Co. KG declines all liability resulting from improper action and damage to WAGO products and third party products due to non-observance of the information contained in this manual.

### 1.1.3 Intended Use

For each individual application, the components supplied are to work with a dedicated hardware and software configuration. Modifications are only permitted within the framework of the possibilities documented in the manuals. All other changes to the hardware and/or software and the non-conforming use of the components entail the exclusion of liability on part of WAGO Kontakttechnik GmbH & Co. KG.

Please direct any requirements pertaining to a modified and/or new hardware or software configuration directly to WAGO Kontakttechnik GmbH & Co. KG.

## 1.2 Symbols



### **Danger**

Always abide by this information to protect persons from injury.



### **Warning**

Always abide by this information to prevent damage to the device.



### **Attention**

Marginal conditions must always be observed to ensure smooth operation.



### **ESD (Electrostatic Discharge)**

Warning of damage to the components by electrostatic discharge. Observe the precautionary measure for handling components at risk.



### **Note**

Routines or advice for efficient use of the device and software optimization.



### **More information**

References on additional literature, manuals, data sheets and INTERNET pages

## 1.3 Number Notation

Number Code	Example	Note
Decimal	100	normal notation
Hexadecimal	0x64	C notation
Binary	'100' '0110.0100'	Within ', Nibble separated with dots

## 1.4 Safety Notes



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### Warning

Switch off the system prior to working on bus modules!

In the event of deformed contacts, the module in question is to be replaced, as its functionality can no longer be ensured on a long-term basis.

The components are not resistant against materials having seeping and insulating properties. Belonging to this group of materials is: e.g. aerosols, silicones, triglycerides (found in some hand creams).

If it cannot be ruled out that these materials appear in the component environment, then additional measures are to be taken:

- installation of the components into an appropriate enclosure
  - handling of the components only with clean tools and materials.
- 



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### Attention

Cleaning of soiled contacts may only be done with ethyl alcohol and leather cloths. Thereby, the ESD information is to be regarded.

Do not use any contact spray. The spray may impair the functioning of the contact area.

The WAGO-I/O-SYSTEM 750 and its components are an open system. It must only be assembled in housings, cabinets or in electrical operation rooms. Access must only be given via a key or tool to authorized qualified personnel.

The relevant valid and applicable standards and guidelines concerning the installation of switch boxes are to be observed.

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### ESD (Electrostatic Discharge)

The modules are equipped with electronic components that may be destroyed by electrostatic discharge. When handling the modules, ensure that the environment (persons, workplace and packing) is well grounded. Avoid touching conductive components, e.g. gold contacts.

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## 1.5 Scope

This manual describes the Digital Input Module 750-610 24 V DC Power Supply/Fuse/Diagn. of the modular WAGO-I/O-SYSTEM 750.

Handling, assembly and start-up are described in the manual of the Fieldbus Coupler. Therefore this documentation is valid only in the connection with the appropriate manual.

## 2 I/O Modules

### 2.1 System Modules

#### 2.1.1 750-610 [24 V DC Power Supply/Fuse/Diagn.]

Supply Module DC 24 V, with fuse carrier / diagnostics

##### 2.1.1.1 View

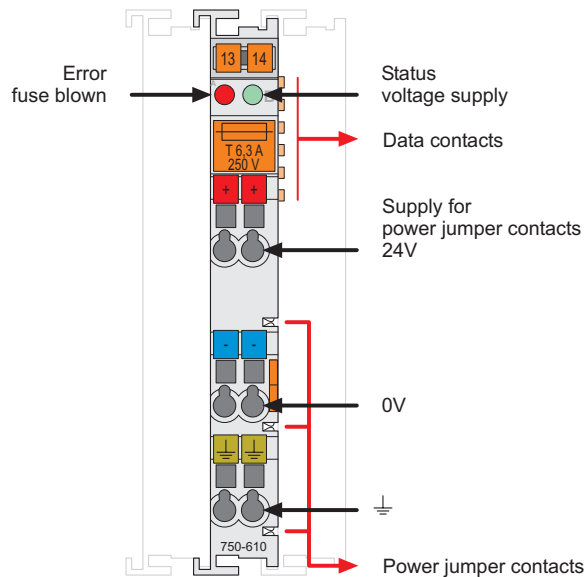


Fig. 2.1.1-1: Supply Module 750-610

g061000e

##### 2.1.1.2 Description

The supply module 750-610 provides DC 24 V field side power to the downstream modules.

The power supply is derived from an external source via the 24 V, 0 V and ground (earth) terminals.

The supply module 750-610 must be fuse-protected (size 5 x 20 mm). The fuse can be changed quickly, with ease, from the retractable fuse carrier.

The module uses two bits in the input area of the process image.  
 Bit 0 (supply voltage monitoring) is set when the 24 V supply voltage is available at both the CAGE CLAMP® supply terminals and the intact fuse.  
 Bit 1 (fuse monitoring) is set when the 24 V supply voltage is available and when the fuse is defective or missing.

A green status LED indicates the 24 V supply voltage at the power jumper contacts when the 24 V supply voltage is available at the CAGE CLAMP® supply terminals and when the fuse is OK. When the 24 V supply voltage is available, a red error LED indicates a fault or a missing fuse.

Both the potential groups and the individual modules within these groups can be arranged in any combination when designing the field bus node.

The supply voltage for the field side is made automatically through the individual I/O modules by means of power jumper contacts.



**Warning**

The maximum current of the supply module is 6.3 A. When configuring the system it is important not to exceed the maximum/sum current. However, if such a case should occur, another supply module must be added.

The supply module 750-610 can be used with all couplers/controllers of the WAGO-I/O-SYSTEM 750.



**Attention**

The supplementary power supply regulations (chapter 2.1.1.7, “Power supply concept”) must be observed for the certified operation of the supply module 750-610 in shipbuilding or offshore and onshore applications!

**2.1.1.3 Display Elements**

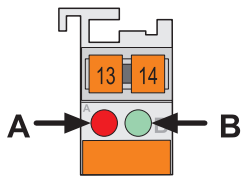


Fig. 2.1.1-2: Display Elements g060102x

LED		Description
A red	B green	
Error status of the fuse	Status voltage supply – Power jumper contacts	
off	off	No supply voltage is available at the CAGE CLAMP® supply terminals
off	on	Supply voltage is available and fuse is OK
on	off	Supply voltage is available and fuse is defective or missing



### 2.1.1.4 Schematic Diagram

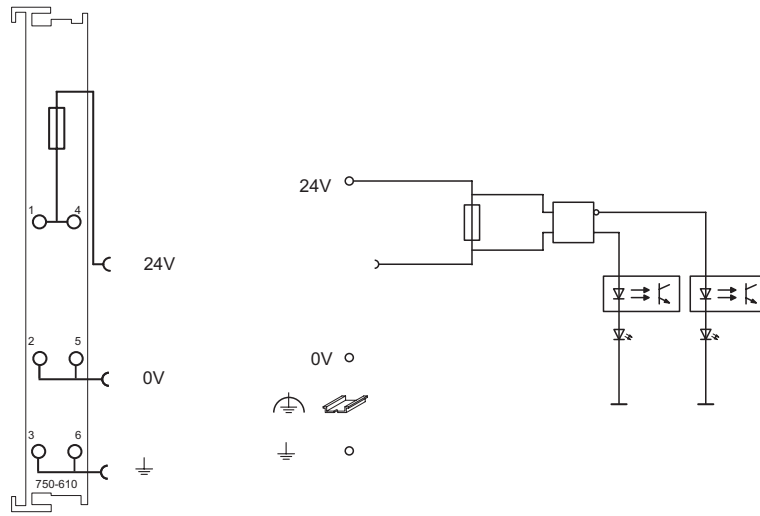













Fig. 2.1.1-3: Supply Module 750-610

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### 2.1.1.5 Technical Data

Module Specific Data		
Voltage via power jumper contacts	DC 24 V (-25 % ... +30 %)	
Current via power jumper contacts <sub>max.</sub>	6.3 A	
Supply voltage detection level	on: > DC 15 V off: < DC 5 V	
Fuse	5 x 20 mm; T 6,3 A (Fuse not included. Use UL Recognized fuses only!)	
Dimensions (mm) W x H x L	12 x 64* x 100 * from upper edge of 35 DIN rail	
Weight	ca. 50 g	
Standards and Regulations (cf. Chapter 2.2 of the Coupler/Controller Manual)		
EMC-Immunity to interference (CE)	acc. to EN 50082-2 (1996)	
EMC-Emission of interference (CE)	acc. to EN 50081-1 (1993)	
EMC-Immunity to interference (Ship building)	acc. to Germanischer Lloyd (97)	
EMC-Emission of interference (Ship building)	acc. to Germanischer Lloyd (97)	
Approvals (cf. Chapter 2.2 of the Coupler/Controller Manual)		
	cUL <sub>US</sub> (UL508)	
	ABS (American Bureau of Shipping) <sup>1)</sup>	
	BV (Bureau Veritas) <sup>1)</sup>	
	DNV (Det Norske Veritas) <sup>1)</sup>	Cl. B
	GL (Germanischer Lloyd) <sup>1)</sup>	Cat. A, B, C, D
	KR (Korean Register of Shipping) <sup>1)</sup>	
	LR (Lloyd's Register) <sup>1)</sup>	Env. 1, 2, 3, 4
	NKK (Nippon Kaiji Kyokai)	
	RINA (Registro Italiano Navale) <sup>1)</sup>	
	cUL <sub>US</sub> (UL1604)	Class I Div2 ABCD T4A
	KEMA	II 3 G EEx nA II T4
	Conformity Marking	

<sup>1)</sup> Note information on “Voltage Supply“!



**More Information**

Detailed references to the approvals are listed in the document "Overview Approvals WAGO-I/O-SYSTEM 750", which you can find on the CD ROM ELECTRONICC Tools and Docs (Item-No.: 0888-0412)

or in the internet under:

[www.wago.com](http://www.wago.com) → Documentation → WAGO-I/O-SYSTEM 750 → System Description

**2.1.1.6 Process Image**

Input bit		Meaning
B1	B0	
fuse monitoring	voltage monitoring	
off	off	No supply voltage is available at the CAGE CLAMP® supply terminals
off	on	Supply voltage is available and fuse is OK
on	off	Supply voltage is available and fuse is defective or missing

**2.1.1.7 Power supply concept**

**Supplementary power supply regulations:**

The overvoltage protection module 750-624, which is equipped with surge suppression for the 24 V DC field side power supply and used to filter the 24 V DC field power supply, is required for the certified operation of the supply module 750-610 in shipbuilding or offshore and onshore applications.

12 • 750-610 [24 V DC Power Supply/Fuse/Diagn.]  
**Power supply concept**

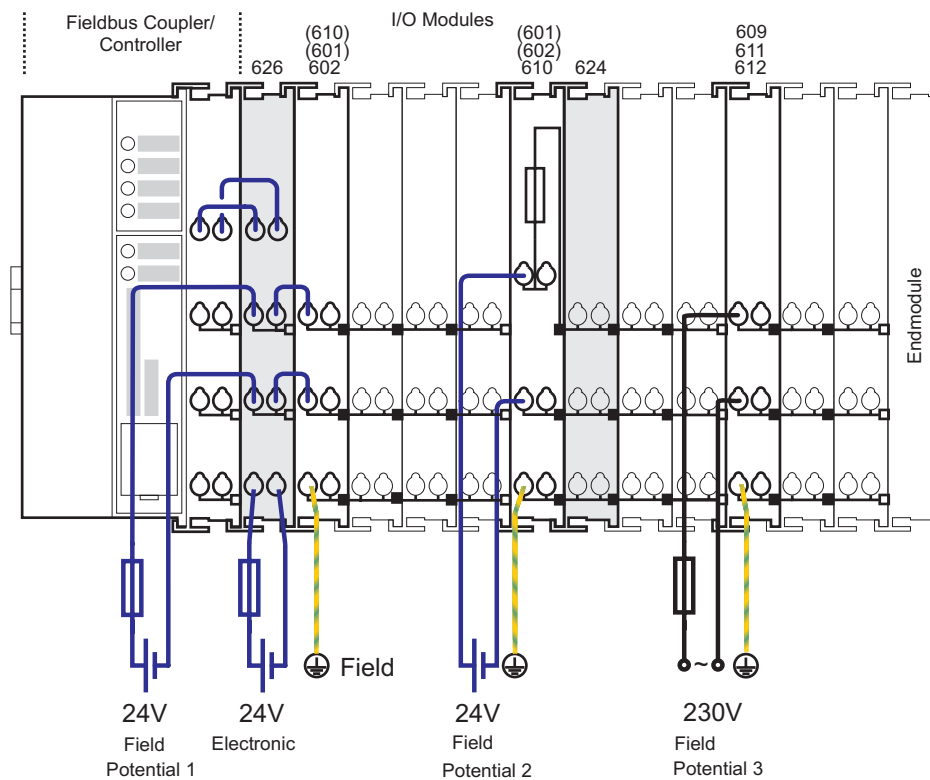


Fig. 2.1.1-4: Power supply concept

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