

WAGO → I/O → SYSTEM 750

**Fieldbus Independent
I/O Modules**

**24 V DC Bus Power Supply
750-613**



Manual

Version 1.0.3

Copyright © 2006 by WAGO Kontakttechnik GmbH & Co. KG
All rights reserved.

WAGO Kontakttechnik GmbH & Co. KG

Hansastraße 27
D-32423 Minden

Phone: +49 (0) 571/8 87 – 0
Fax: +49 (0) 571/8 87 – 1 69
E-Mail: info@wago.com
Web: <http://www.wago.com>

Technical Support

Phone: +49 (0) 571/8 87 – 5 55
Fax: +49 (0) 571/8 87 – 85 55
E-Mail: support@wago.com

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.

E-Mail: documentation@wago.com

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.

CONTENT

1 Important Comments	4
1.1 Legal Principles	4
1.1.1 Copyright	4
1.1.2 Personnel Qualification	4
1.1.3 Intended Use	4
1.2 Symbols	5
1.3 Number Notation	5
1.4 Safety Notes	6
1.5 Scope	6
2 I/O Modules	7
2.1 System Modules	7
2.1.1 750-613 [24 V DC Bus Power Supply]	7
2.1.1.1 View	7
2.1.1.2 Description	7
2.1.1.3 Display Elements	8
2.1.1.4 Schematic Diagram	9
2.1.1.5 Technical Data	10
2.1.1.6 Power supply concept	12

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

This manual is copyrighted, together with all figures and illustrations contained therein. Any use of this manual which infringes the copyright provisions stipulated herein, is not permitted. Reproduction, translation and electronic and photo-technical archiving and amendments require the written consent of WAGO Kontakttechnik GmbH & Co. KG. Non-observance will entail the right of claims for damages.

WAGO Kontakttechnik GmbH & Co. KG reserves the right to perform modifications allowed by technical progress. In case of grant of a patent or legal protection of utility patents all rights are reserved by WAGO Kontakttechnik GmbH & Co. KG. Products of other manufacturers are always named without referring to patent rights. The existence of such rights can therefore not be ruled out.

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



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.
-



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.



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.

1.5 Scope

This manual describes the System Module **750-613 24 V DC Bus Power Supply** 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

2.1.1 750-613 [24 V DC Bus Power Supply]

Internal System Supply Module DC 24 V

2.1.1.1 View

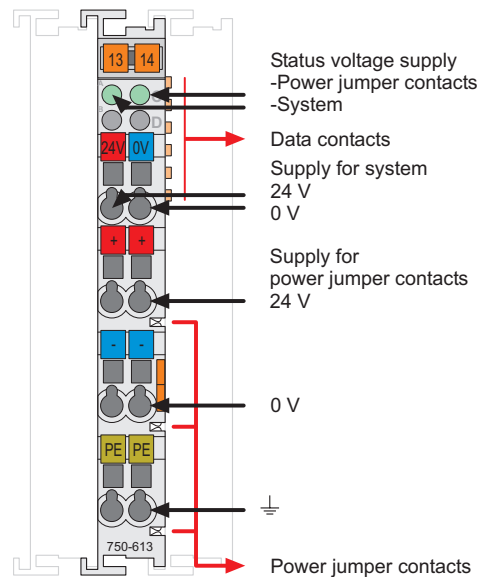


Fig. 2.1.1-1: Supply Module 750-613

g061300e

2.1.1.2 Description

The supply module 750-613 provides the internal system power to the downstream modules and increases the system current supply by 2 A. The system power supply is connected to the upper 24 V / 0 V terminals in parallel to the coupler / controller.



Attention

Resetting the system by switching on and off the system supply must take place simultaneously for all supply modules (coupler / controller and internal system supply module 750-613)!

Furthermore the supply module 750-613 provides DC 24 V field side power to the downstream modules.

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

Two green status LEDs indicate the 24 V voltage supply (system and field power supply).

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 10 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 750-613 can be used with all couplers/controllers of the WAGO-I/O-SYSTEM 750.



Attention

The supplementary power supply regulations (chapter 0, “Power supply concept”) must be observed for the certified operation of the supply module 750-613 in shipbuilding or offshore and onshore applications!

2.1.1.3 Display Elements

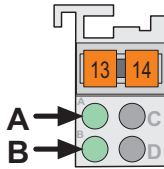


Fig. 2.1.1-2: Display Elements g062602x

or

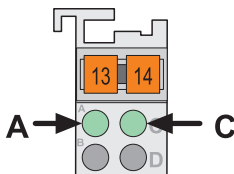


Fig. 2.1.1-3: Display Elements g062602x

LED	Designation	State	Function
A green	Status voltage supply – System	off	No DC 24 V system voltage supply.
		on	DC 24 V system voltage supply.
B or C ^{*)} green	Status voltage supply – Power jumper contacts.	off	No DC 24 V voltage supply via power jumper contacts.
		on	DC 24 V voltage supply via power jumper contacts.

^{*)} LED position is manufacturing dependent

2.1.1.4 Schematic Diagram

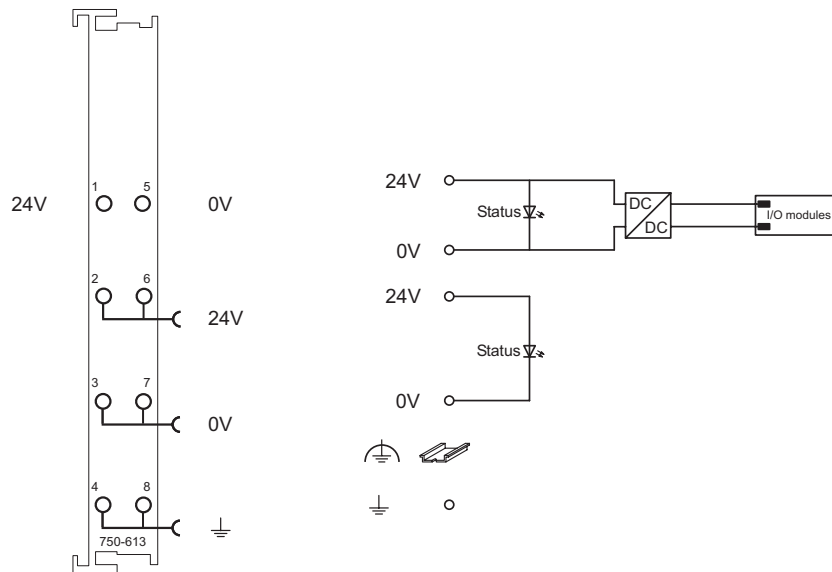













Fig. 2.1.1-4: Supply Module 750-613

g061301e

2.1.1.5 Technical Data

Module Specific Data		
Voltage Supply	DC 24 V (-25% ... +30%)	
Input current _{max.}	500 mA	
Total current for I/O Modules	2000 mA	
Voltage via power jumper contacts _{max.}	DC 24 V (-25% ... +30%)	
Current via power jumper contacts _{max.}	10 A	
Dimensions W x H* x L * from upper edge of 35 DIN rail	12 mm x 64 mm x 100 mm	
Weight _{ca.}	60 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 _{US} (UL508)	
	ABS (American Bureau of Shipping) ¹⁾	
	BV (Bureau Veritas) ¹⁾	
	DNV (Det Norske Veritas) ¹⁾	Cl. B
	GL (Germanischer Lloyd) ¹⁾	Cat. A, B, C, D
	KR (Korean Register of Shipping) ¹⁾	
	LR (Lloyd's Register) ¹⁾	Env. 1, 2, 3, 4
	NKK (Nippon Kaiji Kyokai)	
	RINA (Registro Italiano Navale) ¹⁾	
	cUL _{US} (UL1604)	Class I Div2 ABCD T4A
	KEMA	II 3 G EEx nA II T4
	Conformity Marking	

¹⁾ 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 → Documentation → WAGO-I/O-SYSTEM 750 → System Description

2.1.1.6 Power supply concept

The system power supply is fed in via the upper 24 V / 0 V terminals in parallel to the coupler / controller and is protected using a joint fuse.

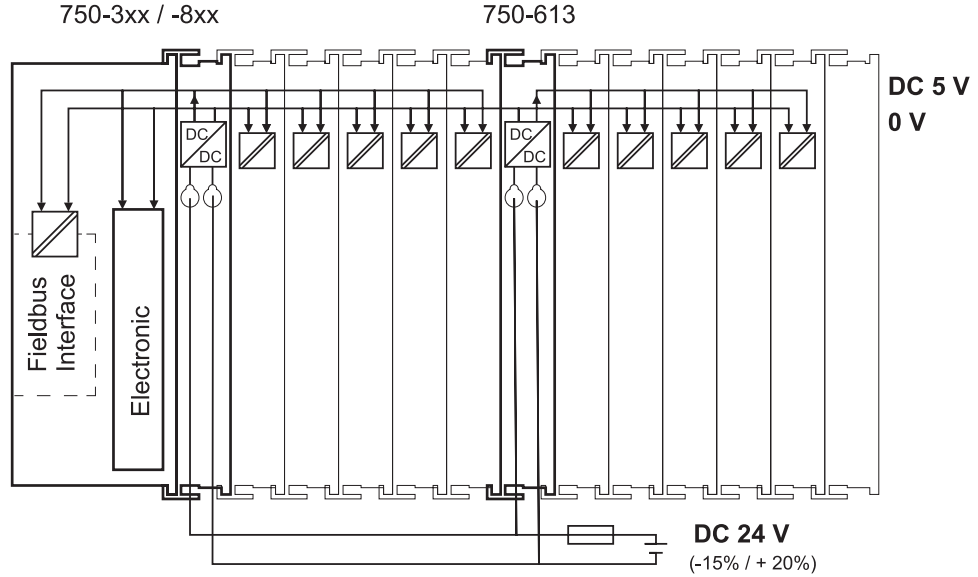


Fig. 2.1.1-5: System supply with a coupler / controller

g0xxx06e

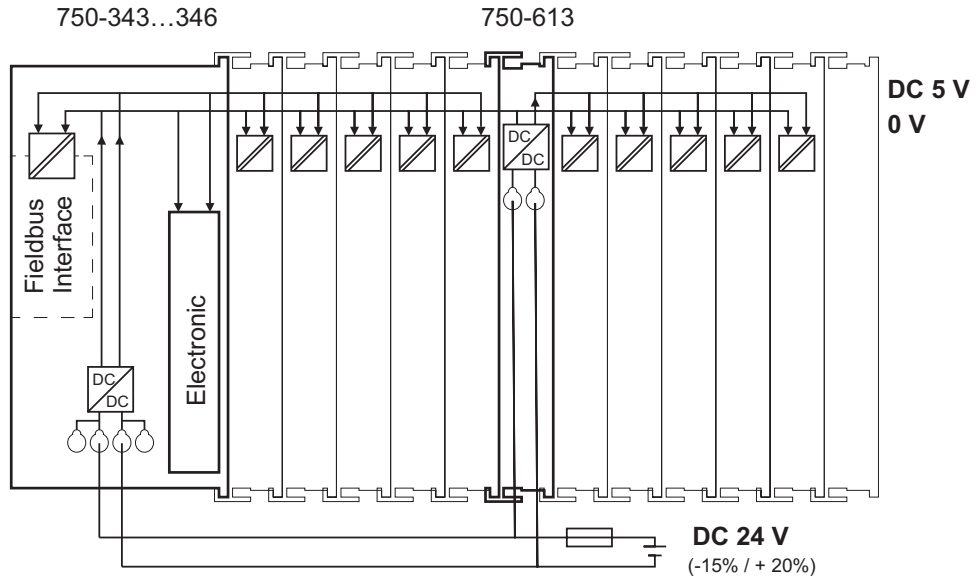


Fig. 2.1.1-6: System supply with an ECO-coupler

g0xxx12e



Attention

Resetting the system by switching on and off the system supply must take place simultaneously for all supply modules (coupler / controller and internal system supply module 750-613)

Supplementary power supply regulations:

The overvoltage protection module 750-626, 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 750-613 in shipbuilding or offshore and onshore applications.

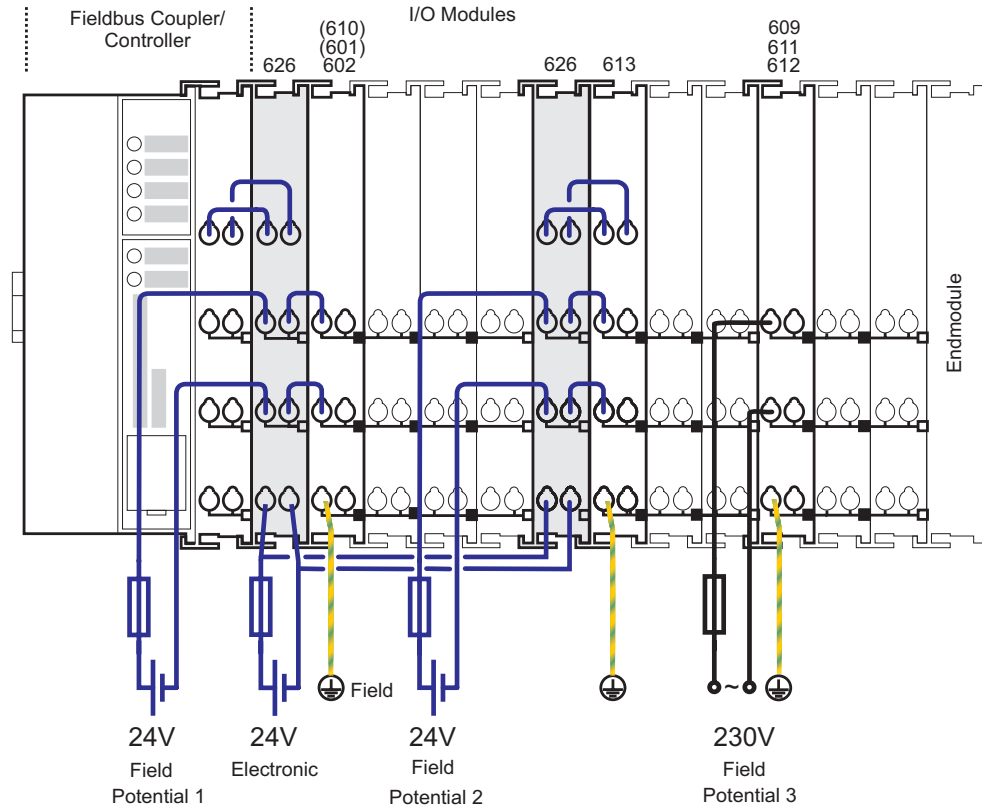


Abb. 2.1.1-7: Power supply concept

g061303e



WAGO Kontakttechnik GmbH & Co. KG
Postfach 2880 • D-32385 Minden
Hansastraße 27 • D-32423 Minden
Phone: 05 71/8 87 – 0
Fax: 05 71/8 87 – 1 69
E-Mail: info@wago.com

Internet: <http://www.wago.com>
