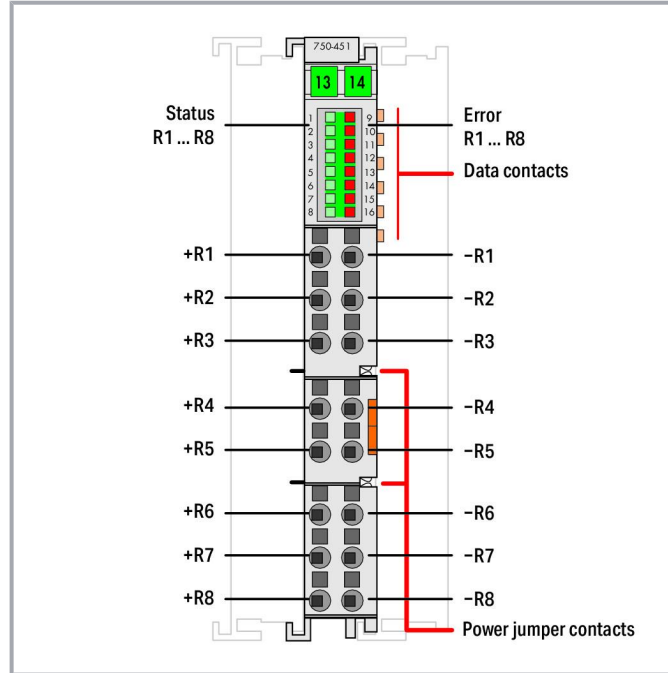
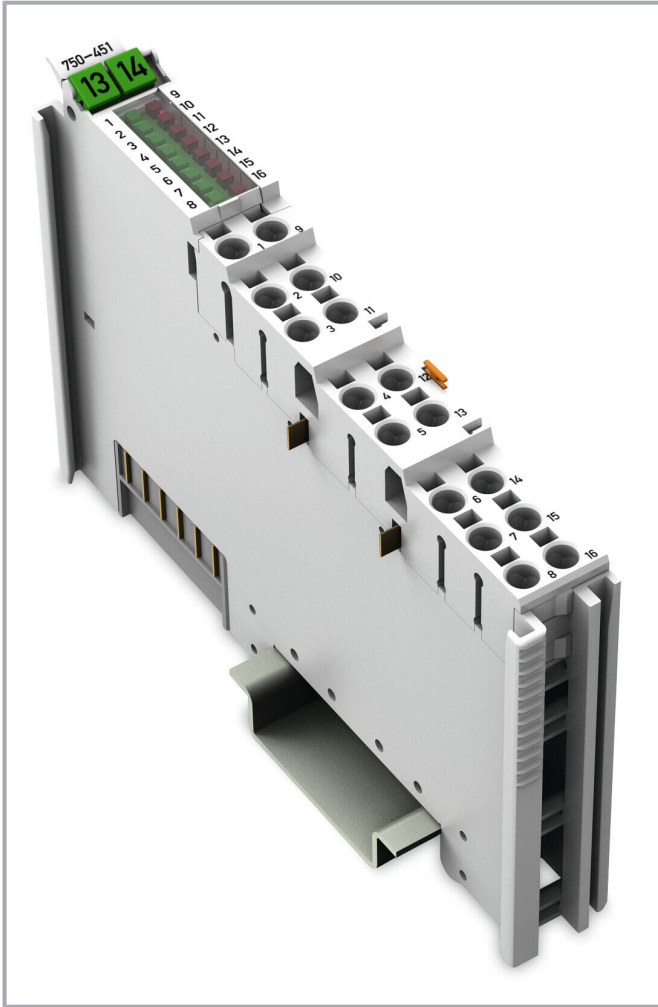


Data sheet | Item number: 750-451

8-channel analog input; Resistance measurement; Adjustable

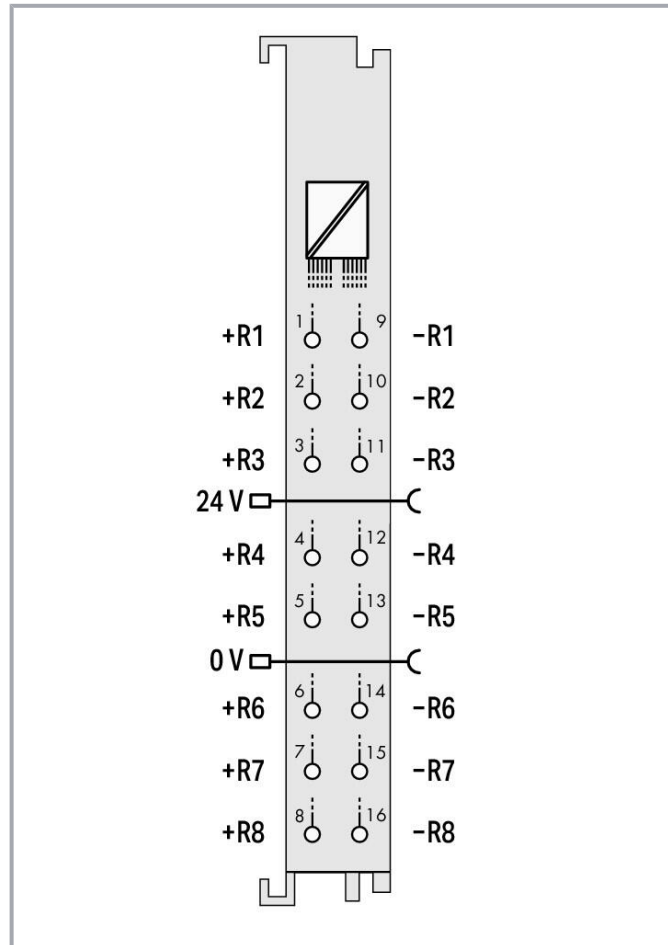
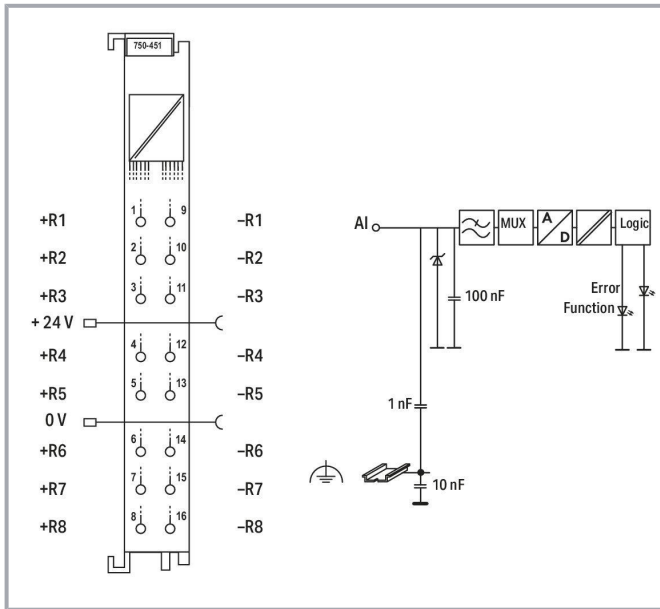
www.wago.com/750-451



Subject to changes. Please also observe the further product documentation!

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Phone: +49571 887-0 | Fax: +49571 887-169
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Item description

This analog input module directly connects to Pt or Ni resistance sensors.

Two-wire sensors can be connected.

The module automatically linearizes the entire temperature range. A sensor error (short circuit, wire break or out-of-measurement range) is indicated by a red LED. Unused channels can be deactivated.

The module can be configured via WAGO-I/O-CHECK or GSD files.

It features multiple setting options and high accuracy.

Data

Technical data

Number of analog inputs

8

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Total number of channels (module)	8
Signal type	Resistance measurement Potentiometer positions Resistance measurement Potentiometer positions
Signal type (configurable)	yes
Sensor connection	8 x (2-wire)
Data width	8 x 16-bit data; 8 x 8-bit control/status (optional)
Resolution (over entire range)	0.1 °C (over the entire range); 0.01 °C (-50 ... 150 °C; Pt1000, Ni1000)
Conversion time (typ.)	100 ms
Measurement error (25 °C)	≤ ±0.6 K (Pt100, Pt200, Pt500, Ni100, Ni120); ≤ ±0.2 K (Pt1000, Ni1000); ≤ ±0.3 Ω for resistance measurement
Measuring current (typ.)	≤ 350 μA
Response time (max.)	3 s
Sensor types	Pt100; Configurable: Pt200, Pt500, Pt1000, Ni100, Ni120, Ni1000 (TK6180 + TK5000), Potentiometer: 10R ... 1k2, 10R ... 5k0
Temperature range	-200 ... +850 °C (Pt100, Pt200, Pt500, Pt1000), -60 ... +250 °C (Ni100, Ni1000), -80 ... +260 °C (Ni120)
Configuration options	WAGO-I/O-CHECK CODESYS Library e!COCKPIT
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	110 mA
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Isolation	500 V system/field
Indicators	LED (1-8) green: Status R1 ... R8; LED (9-16) red: Error R1 ... R8
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2

Connection data

Connection technology: inputs/outputs	16 x Push-in CAGE CLAMP®
Connection type 1	Inputs/Outputs
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 16 AWG
Fine-stranded conductor	0.25 ... 1.5 mm ² / 22 ... 16 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches

Physical data

Width	12 mm / 0.472 inches
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Subject to changes. Please also observe the further product documentation!



Height	100 mm / 3.937 inches
Depth	69 mm / 2.717 inches
Depth from upper-edge of DIN-rail	61.8 mm / 2.433 inches

Mechanical Data

Mounting type	DIN-35 rail
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Material Data

Housing material	Polycarbonate; polyamide 6.6
Fire load	0.837 MJ
Weight	48 g
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-25 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	0 ... 2000 m / 0 ... 6562 ft
Mounting position	horizontal (standing/lying); vertical
Relative humidity (without condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-1; EN 61000-6-2
EMC emission of interference	per EN 61000-6-3
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible H ₂ S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO ₂ contaminant concentration at a relative humidity 75 %	25 ppm

Commercial data

eCl@ss 10.0	27-24-26-01
eCl@ss 9.0	27-24-26-01
ETIM 8.0	EC001596
ETIM 7.0	EC001596

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PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4017332258388
Customs tariff number	85389099990

Environmental Product Compliance



RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43- AIM750
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1









Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

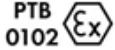

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
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Subject to changes. Please also observe the further product documentation!

	ABS American Bureau of Shipping	-	22-2219060
	BSH Bundesamt fuer Seeschifffahrt und Hydrographie	-	1104
	BV Bureau Veritas S.A.	Rules for class. of Steel Ships	66711/A0
	DNV DNV GL SE	DNV-CG-0339, Aug. 2021	TAA0000194
	KR Korean Register of Shipping	-	KR HMB05880-AC001
	LR Lloyds Register EMEA	-	LR22180952TA
	PRS Polski Rejestr Statków	-	TE/2236/880590/19
	RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV_14_ATEX_148929_X (II 3 G Ex ec IIC T4 Gc)
	CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
	EAC	TP TC 012/2011	EAC RU C-DE.AM02.B.00163

Subject to changes. Please also observe the further product documentation!

Brjansker Zertifizierungsstelle

/19 (2Ex e IIC T4 Gc X)



IECEX
TUEV Nord Cert GmbH

IEC 60079-0

IECEX TUN 14.0035 X (Ex ec
IIC T4 Gc)



INMETRO
TÜV Rheinland do Brasil Ltda.

IEC 60079-0

BR-Ex_TÜV 12.1297 X



KTL
Korea Testing Laboratory

KOSHA Article 34, IEC60079-0

21-KA4BO-0555X



UKEx
WAGO GmbH & Co. KG

EN 60079-0

UKCA_WAGO22UKEX003X_ec



UL
Underwriters Laboratories Inc. (HAZARDOUS
LOCATIONS)

UL 121201

E198726 Sec.1

Optional accessories

Tool

Operating tool



Item no.: 210-719

Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

www.wago.com/210-719

Marking accessories

Marker carrier



Item no.: 750-103

Group marker carrier

www.wago.com/750-103

Marker



Item no.: 2009-145/000-006

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue /000-006

www.wago.com/2009-145

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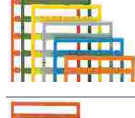
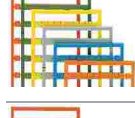
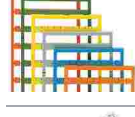
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	Item no.: 2009-145 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-145
	Item no.: 2009-145/000-002 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow	www.wago.com/2009-145/000-002
	Item no.: 2009-145/000-007 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray	www.wago.com/2009-145/000-007
	Item no.: 2009-145/000-005 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red	www.wago.com/2009-145/000-005
	Item no.: 2009-145/000-012 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange	www.wago.com/2009-145/000-012
	Item no.: 2009-145/000-023 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green	www.wago.com/2009-145/000-023
	Item no.: 2009-145/000-024 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet	www.wago.com/2009-145/000-024
	Item no.: 248-501/000-006 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue	www.wago.com/248-501/000-006
	Item no.: 248-501/000-007 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray	www.wago.com/248-501/000-007
	Item no.: 248-501/000-002 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow	www.wago.com/248-501/000-002
	Item no.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange	www.wago.com/248-501/000-012
	Item no.: 248-501 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/248-501

Subject to changes. Please also observe the further product documentation!



Item no.: 248-501/000-017
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

www.wago.com/248-501/000-017



Item no.: 248-501/000-005
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red

www.wago.com/248-501/000-005



Item no.: 248-501/000-024
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

www.wago.com/248-501/000-024



Item no.: 248-501/000-023
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green

www.wago.com/248-501/000-023

Group marker carrier



Item no.: 750-107
Group marker carrier

www.wago.com/750-107

System housing

System enclosure



Item no.: 850-814/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate

www.wago.com/850-814/002-000



Item no.: 850-815/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate

www.wago.com/850-815/002-000



Item no.: 850-816/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate

www.wago.com/850-816/002-000



Item no.: 850-817/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate

www.wago.com/850-817/002-000



Item no.: 850-825
IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20

www.wago.com/850-825



Item no.: 850-826
IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-826



Item no.: 850-827
IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-827

Item no.: 850-827/002-000

Subject to changes. Please also observe the further product documentation!



IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-827/002-000



Item no.: 850-826/002-000

IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-826/002-000



Item no.: 850-828/002-000

IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

www.wago.com/850-828/002-000



Item no.: 850-828

IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

www.wago.com/850-828



Item no.: 850-834

IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20

www.wago.com/850-834



Item no.: 850-835

IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-835



Item no.: 850-836

IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-836

Carrier rail

Mounting accessories



Item no.: 210-197

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored

www.wago.com/210-197



Item no.: 210-198

Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

www.wago.com/210-198



Item no.: 210-504

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored

www.wago.com/210-504



Item no.: 210-505

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

www.wago.com/210-505



Item no.: 210-506

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored

www.wago.com/210-506



Item no.: 210-508

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored

www.wago.com/210-508



Item no.: 210-113

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

www.wago.com/210-113

Subject to changes. Please also observe the further product documentation!

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	Item no.: 210-118 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	www.wago.com/210-118
	Item no.: 210-112 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored	www.wago.com/210-112
	Item no.: 210-114 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	www.wago.com/210-114
	Item no.: 210-115 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored	www.wago.com/210-115
	Item no.: 210-196 Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	www.wago.com/210-196

Shield termination

Shield clamping saddles		
	Item no.: 790-116 Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm	www.wago.com/790-116
	Item no.: 790-124 Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm	www.wago.com/790-124
	Item no.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm	www.wago.com/790-108
	Item no.: 790-140 Shield clamping saddle; diameter of compatible conductor	www.wago.com/790-140
	Item no.: 790-216 Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	www.wago.com/790-216
	Item no.: 790-220 Shield clamping saddle; 30 mm wide; 6 ... 20 mm	www.wago.com/790-220
	Item no.: 790-208 Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	www.wago.com/790-208

Downloads

Documentation

Manual

System Manual WAGO I/O System 750/753 Decentralized Automation Technology	V 3.3.0 2023 May 4	pdf 8.8 MB	Download
Product Manual 8 AI RTD, Configurable 8-Channel Analog Input Module for Resistance Sensors, Configurable	V 1.2.0	pdf 4.0 MB	Download

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	URL	Download
System Manual Series 750/753 Online HTML		

Bid Text

750-451 X81 - Datei	2019 Feb 19	xml 5.2 kB	Download
750-451 docx - Datei	2017 Oct 20	docx 18.6 kB	Download
750-451 doc - Datei	2017 Oct 20	doc 31.2 kB	Download
ausschreiben.de 750-451		URL	Download

Instruction Leaflet

CCC Ex (Additional information) WAGO-I/O-SYSTEM *750-****/*	2023 Apr 26	pdf 163.6 kB	Download
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System Description

750/753 Series I/O-System – General Product Information		pdf 1.7 MB	Download
Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 789.0 kB	Download

Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18	pdf 2.2 MB	Download
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Application Notes

Application Note CoDeSys 2.3

Application Note Library ModuleAccess_01 These instructions describe the use of the ModuleAccess_01.lib library using 4 examples.	05.01.2016 2016 Jan 29	zip 1.0 MB	Download
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Libraries

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Library

ModuleAccess_01.lib	1.8.7	zip	Download
The ModuleAccess_01 library provides both module configuration and access to its process data within a CoDeSys project without the use of WAGO I/O Check.	2020 Jan 27	2.2 MB	

CAD/CAE-Data

CAD data

2D/3D Models 750-451	URL	Download
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CAE data

WSCAD Universe 750-451	URL	Download
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ZUKEN Portal 750-451	URL	Download
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EPLAN Data Portal 750-451	URL	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-451	URL	Download
8-channel analog input; Resistance measurement; Adjustable		

Installation Notes

Product family

WAGO I/O System 750/753
[Show all products from the family](#)

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