

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!

WAGO GmbH & Co. KG
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Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

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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.

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



Data

Technical data

| | |
|--|--|
| Number of analog inputs | 8 |
| 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 |

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



| | |
|-------------------------|--|
| 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 |
| 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 |
|---------------|-------------|

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) | -40 ... +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 |

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

Environmental Product Compliance

| | |
|---|--|
| CAS-No. | 12626-81-2 1303-86-2 1317-36-8 7439-92-1 |
| REACH Candidate List Substance | Diboron trioxide Lead Lead monoxide Lead titanium zirconium oxide (Pb(Ti,Zr)O3) |
| RoHS Compliance Status | Compliant,With Exemption |
| RoHS Exemption | 6(c) 7(a) 7(c)-I 7(c)-II |
| SCIP notification number (Austria) | 0485557f-27ea-4123-9a3b-de645cd5d37f |
| SCIP notification number (Belgium) | 449cdf43-b314-4607-b4a5-d7c754149d26 |
| SCIP notification number (Bulgaria) | 5dfbbbbe-e64b-4e32-8108-9c9de8c6188e |
| SCIP notification number (Czech Republic) | 681d2b62-e9c5-457e-9c2a-f0ebd137c142 |
| SCIP notification number (Denmark) | 3c0fe329-36bd-4923-91e4-6f31428c42d9 |
| SCIP notification number (Finland) | e28d2b60-3243-4a30-9d8e-dce05b790b83 |
| SCIP notification number (France) | 097b8d33-b054-4d32-b059-22c365abd9e5 |
| SCIP notification number (Germany) | c547e5a3-e61f-4f86-bd16-6dd68bdc366a |
| SCIP notification number (Hungary) | 41d7e506-db95-431d-b73a-1761a936a781 |
| SCIP notification number (Italy) | bcce32e5-50bb-4ebf-a3fe-9e114bb4487c |
| SCIP notification number (Netherlands) | 5b16312e-a088-470a-b6aa-96e5d01c2d53 |
| SCIP notification number (Poland) | 5b2104e4-3b65-4548-a3c9-70c6bcac4fbb |
| SCIP notification number (Romania) | e8d067a4-94c4-4cb0-a3c1-be578c190f36 |

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SCIP notification number (Sweden)

025393a2-d5d2-4fcb-811f-a9b3ec8dd6cc

Approvals / Certificates

General approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------|--|--------------------------|-----------------------------|
| | 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 |
|------|--|---------------------------------|-------------------|
| | 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 |

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Approvals for hazardous areas

| Logo | Approval | Additional Approval Text | Certificate name |
|------|--|------------------------------|---|
| | ATEX TUEV Nord Cert GmbH | EN 60079-0 | TUEV14ATEX148929X (II 3 G Ex ec IIC T4 Gc) |
| | CCCEX CQST/CNEx | CNCA-C23-01 | 2020312310000213 (Ex ec IIC T4 Gc) |
| | EAC Brjansker Zertifizierungsstelle | TP TC 012/2011 | EAC RU C-DE.AM02.B.00163 /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

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 | | www.wago.com/210-113 |

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

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

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

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**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 www.wago.com/2009-145/000-006

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

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

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**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**

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**

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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

Downloads**Documentation****Manual**

System Manual WAGO I/O System 750/753 Decentralized Automation Technology V 3.3.3 2023 年8月29 日 pdf 8.7 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](#)

System Manual Series 750/753 Online HTML URL [Download](#)

Bid Text

750-451 X81 - Datei 2019 年2月19 日 xml 5.2 kB [Download](#)

750-451 docx - Datei 2017 年10月20 日 docx 18.6 kB [Download](#)

750-451 doc - Datei 2017 年10月20 日 doc 31.2 kB [Download](#)

ausschreiben.de 750-451 URL [Download](#)

Instruction Leaflet

CCC Ex (Additional information) 2023 年4月26 日 pdf [Download](#)

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WAGO-I/O-SYSTEM *750-****/*

163.6 kB

System Description

| | | |
|---|----------|----------|
| 750/753 Series I/O-System – General Product Information | pdf | Download |
| | 976.2 kB | |
| Overview on WAGO-I/O-SYSTEM 750 approvals | pdf | Download |
| | 223.5 kB | |

Additional Information

| | | | |
|---|--------------|--------|----------|
| Disposal and Recycling | V 1.1.0 | pdf | Download |
| Electrical and electronic equipment, Batteries, Packaging | 2022 年8月18 日 | 2.2 MB | |

Application Notes

Application Note CoDeSys 2.3

| | | | |
|--|--------------|--------|----------|
| Application Note Library ModuleAccess_01 | 05.01.2016 | zip | Download |
| These instructions describe the use of the ModuleAccess_01.lib library using 4 examples. | 2016 年1月29 日 | 1.0 MB | |

Libraries

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 年1月27 日 | 2.2 MB | |

CAD/CAE-Data

CAD data

| | | |
|----------------------|-----|----------|
| 2D/3D Models 750-451 | URL | Download |
|----------------------|-----|----------|

CAE data

| | | |
|---------------------------|-----|----------|
| WSCAD Universe 750-451 | URL | Download |
| ZUKEN Portal 750-451 | URL | Download |
| 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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