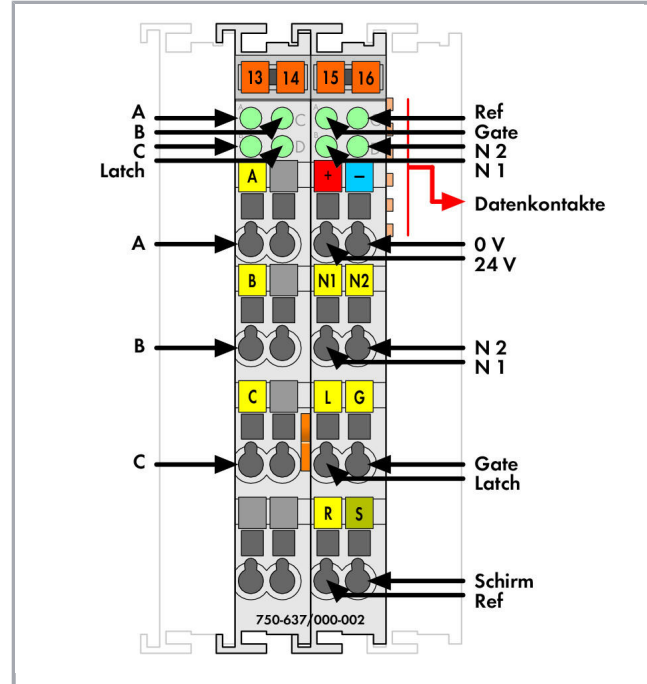


Data sheet | Item number: 750-637/000-002

Incremental encoder interface; 24 VDC; Single-ended; 32 bits; light gray

[www.wago.com/750-637/000-002](http://www.wago.com/750-637/000-002)



RoHS Compliant

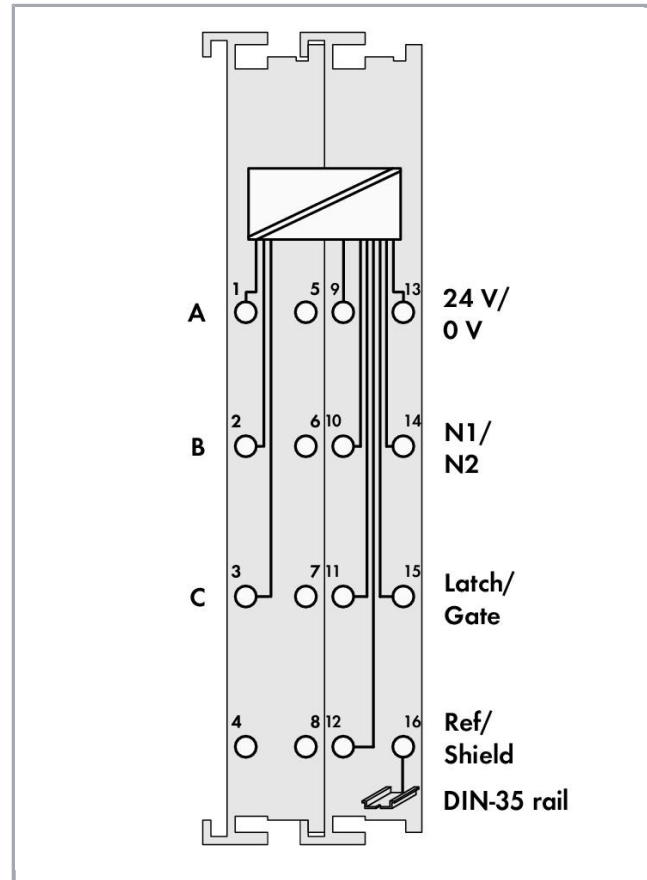
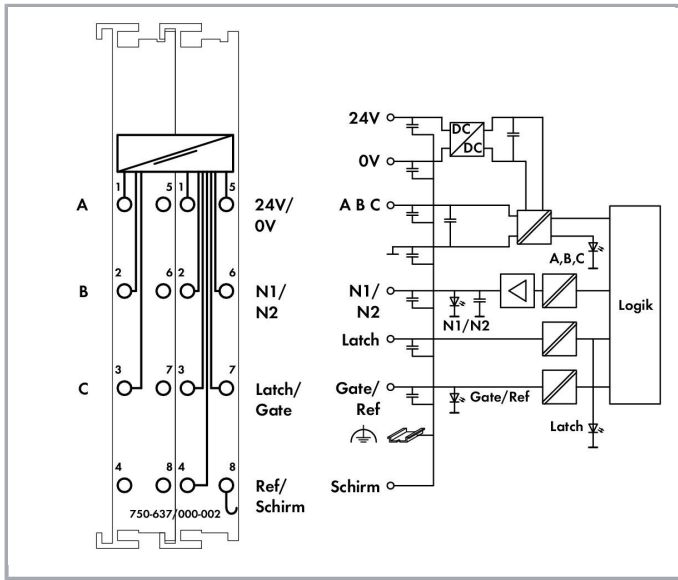
[BOMcheck.net](https://www.bomcheck.net)

Color:

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

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## Item description

This module is an interface for incremental encoders with standard connections (e.g., RS-422, differential, single-ended).

A counter with quadrature decoder as well as a latch for the zero impulse can be read or enabled by the controller. The controller can set the counter or transmit the counter value to the Latch. Depending on the operating mode, the counter value is added to the latch register on a positive edge at the "C" or "Latch" input.

The rate (increments/ms) is automatically acquired and can also be transmitted to the controller as an alternative to the latch value.

A counter lock-out is possible using the "Gate" input. Input "Ref" can be used to activate the initial point "C" function.

The cam outputs N1 and N2 indicate whether the counter value is within a defined range of values. The range can be adjusted.

The module must be powered using an external 24 VDC power supply, from which power to the transmitter (Ui, UO) can also be derived.

The shield directly connects to the DIN-rail.

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



## Data

### Technical Data

Counter depth	32 Bit
Sensor connection	A, B, C
Transmitter supply voltage	DC 24 V
Versorgungsstrom Geber max	300 mA
Zero impulse latch	32 Bit
Quadrature decoder	4x evaluation
Input current typ.	Latch 5 mA, Gate 7 mA, Ref. 7 mA
Output current per channel	0.5 A
Output current	short-circuit-protected
Output voltage	24 VDC
Voltage range for signal (0)	-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC
Bit width	1 x 32-bit data 2 x 8-bit control/status
Operating frequency	250 kHz
Commands	Reading, setting, activating
System supply voltage	DC 5 V; via data contacts
Current consumption, system supply (5 V)	110 mA
Current consumption, field supply (module with no external load)	35 mA
Isolation	500 V system/field

### Connection data

Connection technology: In-/Outputs	16 x CAGE CLAMP®
Connection type (1)	Inputs/Outputs
Solid conductor	0,08 ... 2,5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0,08 ... 2,5 mm <sup>2</sup> / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch

### Geometrical Data

Width	24 mm / 0.945 inch
Height	69,8 mm / 2.748 inch
Height from upper-edge of DIN-35 rail	62,6 mm / 2.465 inch
Depth	100 mm / 3.937 inch

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

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## Mechanical data

Type of mounting	DIN-35 rail
------------------	-------------

## Material Data

Color	light gray
Housing material	Polycarbonate, polyamide 6.6
Fire load	1.572 MJ
Weight	99.8 g
Conformity marking	CE

## Environmental Requirements

Surrounding air (operating) temperature	0 ... 55 °C
Surrounding air (storage) temperature	-40 ... 85 °C
Protection class	IP20
Degree of pollution (5)	2 per IEC 61131-2
Operating altitude	0 ... 2000 m
Mounting position	horizontal (standing/lying); vertical
Relative air humidity (no condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2, marine applications
EMC emission of interference	per EN 61000-6-4, marine applications
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %	25 ppm

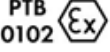


## Commercial data

Product Group	15 (Remote I/O)
Packaging type	BOX
Country of origin	DE
GTIN	4045454589905
Customs Tariff No.	85389099990


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

## Approvals / Certificates

### Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV 07 ATEX 554086 X en.
	TUEV Nord TUEV Nord Cert GmbH	IEC 60079-0	IECEX TUN 09.0001 X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

### UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL UL International Netherlands B.V. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1




## Counterpart

## Compatible products

### Carrier rail

<b>Item no.: 210-112</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm	<a href="http://www.wago.com/210-112">www.wago.com/210-112</a>
<b>Item no.: 210-113</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715	<a href="http://www.wago.com/210-113">www.wago.com/210-113</a>
<b>Item no.: 210-114</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715	<a href="http://www.wago.com/210-114">www.wago.com/210-114</a>




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

	<b>Item no.: 210-115</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm	<a href="http://www.wago.com/210-115">www.wago.com/210-115</a>
	<b>Item no.: 210-118</b> Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	<a href="http://www.wago.com/210-118">www.wago.com/210-118</a>
	<b>Item no.: 210-196</b> Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-196">www.wago.com/210-196</a>
	<b>Item no.: 210-197</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	<a href="http://www.wago.com/210-197">www.wago.com/210-197</a>
	<b>Item no.: 210-198</b> Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored	<a href="http://www.wago.com/210-198">www.wago.com/210-198</a>
	<b>Item no.: 210-504</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715	<a href="http://www.wago.com/210-504">www.wago.com/210-504</a>
	<b>Item no.: 210-505</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715	<a href="http://www.wago.com/210-505">www.wago.com/210-505</a>
	<b>Item no.: 210-506</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715	<a href="http://www.wago.com/210-506">www.wago.com/210-506</a>
	<b>Item no.: 210-508</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715	<a href="http://www.wago.com/210-508">www.wago.com/210-508</a>
<b>system box</b>		
	<b>Item no.: 850-804</b> IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip	<a href="http://www.wago.com/850-804">www.wago.com/850-804</a>
	<b>Item no.: 850-804/000-001</b> IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip	<a href="http://www.wago.com/850-804/000-001">www.wago.com/850-804/000-001</a>
	<b>Item no.: 850-805</b> IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip	<a href="http://www.wago.com/850-805">www.wago.com/850-805</a>
	<b>Item no.: 850-814/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate	<a href="http://www.wago.com/850-814/002-000">www.wago.com/850-814/002-000</a>
	<b>Item no.: 850-815/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate	<a href="http://www.wago.com/850-815/002-000">www.wago.com/850-815/002-000</a>
	<b>Item no.: 850-816/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate	<a href="http://www.wago.com/850-816/002-000">www.wago.com/850-816/002-000</a>
	<b>Item no.: 850-817/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate	<a href="http://www.wago.com/850-817/002-000">www.wago.com/850-817/002-000</a>







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	<b>Item no.: 850-825</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20	<a href="http://www.wago.com/850-825">www.wago.com/850-825</a>
	<b>Item no.: 850-826</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	<a href="http://www.wago.com/850-826">www.wago.com/850-826</a>
	<b>Item no.: 850-826/002-000</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	<a href="http://www.wago.com/850-826/002-000">www.wago.com/850-826/002-000</a>
	<b>Item no.: 850-827</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	<a href="http://www.wago.com/850-827">www.wago.com/850-827</a>
	<b>Item no.: 850-827/002-000</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	<a href="http://www.wago.com/850-827/002-000">www.wago.com/850-827/002-000</a>
	<b>Item no.: 850-828</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip	<a href="http://www.wago.com/850-828">www.wago.com/850-828</a>
	<b>Item no.: 850-828/002-000</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip	<a href="http://www.wago.com/850-828/002-000">www.wago.com/850-828/002-000</a>
	<b>Item no.: 850-834</b> IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20	<a href="http://www.wago.com/850-834">www.wago.com/850-834</a>
	<b>Item no.: 850-835</b> IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	<a href="http://www.wago.com/850-835">www.wago.com/850-835</a>
	<b>Item no.: 850-836</b> IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	<a href="http://www.wago.com/850-836">www.wago.com/850-836</a>

**Marking accessories**

	<b>Item no.: 2009-145</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/2009-145">www.wago.com/2009-145</a>
	<b>Item no.: 2009-145/000-002</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/2009-145/000-002">www.wago.com/2009-145/000-002</a>
	<b>Item no.: 2009-145/000-005</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red	<a href="http://www.wago.com/2009-145/000-005">www.wago.com/2009-145/000-005</a>
	<b>Item no.: 2009-145/000-006</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue	<a href="http://www.wago.com/2009-145/000-006">www.wago.com/2009-145/000-006</a>
	<b>Item no.: 2009-145/000-007</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/2009-145/000-007">www.wago.com/2009-145/000-007</a>

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	<p><b>Item no.: 2009-145/000-012</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p>	<p><a href="http://www.wago.com/2009-145/000-012">www.wago.com/2009-145/000-012</a></p>
	<p><b>Item no.: 2009-145/000-023</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>	<p><a href="http://www.wago.com/2009-145/000-023">www.wago.com/2009-145/000-023</a></p>
	<p><b>Item no.: 2009-145/000-024</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p>	<p><a href="http://www.wago.com/2009-145/000-024">www.wago.com/2009-145/000-024</a></p>
	<p><b>Item no.: 248-501</b> Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card</p>	<p><a href="http://www.wago.com/248-501">www.wago.com/248-501</a></p>
	<p><b>Item no.: 248-501/000-002</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow</p>	<p><a href="http://www.wago.com/248-501/000-002">www.wago.com/248-501/000-002</a></p>
	<p><b>Item no.: 248-501/000-005</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red</p>	<p><a href="http://www.wago.com/248-501/000-005">www.wago.com/248-501/000-005</a></p>
	<p><b>Item no.: 248-501/000-006</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue</p>	<p><a href="http://www.wago.com/248-501/000-006">www.wago.com/248-501/000-006</a></p>
	<p><b>Item no.: 248-501/000-007</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray</p>	<p><a href="http://www.wago.com/248-501/000-007">www.wago.com/248-501/000-007</a></p>
	<p><b>Item no.: 248-501/000-012</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange</p>	<p><a href="http://www.wago.com/248-501/000-012">www.wago.com/248-501/000-012</a></p>
	<p><b>Item no.: 248-501/000-017</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green</p>	<p><a href="http://www.wago.com/248-501/000-017">www.wago.com/248-501/000-017</a></p>
	<p><b>Item no.: 248-501/000-023</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green</p>	<p><a href="http://www.wago.com/248-501/000-023">www.wago.com/248-501/000-023</a></p>
	<p><b>Item no.: 248-501/000-024</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet</p>	<p><a href="http://www.wago.com/248-501/000-024">www.wago.com/248-501/000-024</a></p>
	<p><b>Item no.: 750-100</b> Marker card; as a DIN A4 sheet; plain; white</p>	<p><a href="http://www.wago.com/750-100">www.wago.com/750-100</a></p>

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





**Item no.: 750-103**  
Group marker carrier; transparent

[www.wago.com/750-103](http://www.wago.com/750-103)

**Item no.: 750-106**  
Group marker carrier; transparent

[www.wago.com/750-106](http://www.wago.com/750-106)

#### shield connection

**Item no.: 790-108**  
Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm

[www.wago.com/790-108](http://www.wago.com/790-108)

**Item no.: 790-116**  
Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm

[www.wago.com/790-116](http://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](http://www.wago.com/790-124)

**Item no.: 790-140**  
Shield clamping saddle; diameter of compatible conductor

[www.wago.com/790-140](http://www.wago.com/790-140)



**Item no.: 790-208**  
Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm

[www.wago.com/790-208](http://www.wago.com/790-208)



**Item no.: 790-216**  
Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm

[www.wago.com/790-216](http://www.wago.com/790-216)

**Item no.: 790-220**  
Shield clamping saddle; 30 mm wide; 6 ... 20 mm

[www.wago.com/790-220](http://www.wago.com/790-220)

## Downloads

### Documentation

#### Manual

Incremental encoder interface RS-422, cam outputs	V 1.6.0	pdf 2.4 MB	Download
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#### Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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#### System Description

Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 780.2 kB	Download
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Design Notes Basic conditions and recommendations for higher operational safety	V 2.0.0	pdf 1.5 MB	Download
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#### 750/753 Series I/O-System – General Product Information

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V 1.0.0

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Term definition, marking and installation regulations

## CAD/CAE-Data

### CAD data

2D/3D Models 750-637/000-002

URL

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### CAE data

EPLAN Data Portal 750-637/000-002

URL

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WSCAD Universe 750-637/000-002

URL

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## Device Files

### Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857

6.5.3.0  
Sep 10, 2014

zip  
4.8 MB

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## Installation Notes

## Product family

**750/753 Series – I/O System**

[Show all products from the family](#)

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