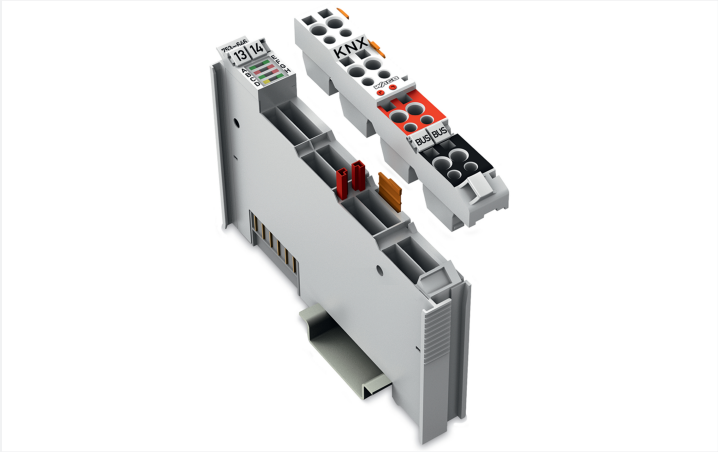
Data Sheet | Item Number: 753-646

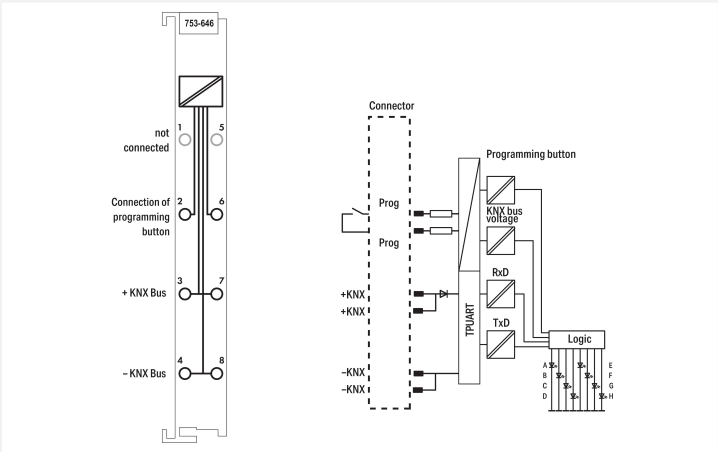
KNX/EIB/TP1 Interface

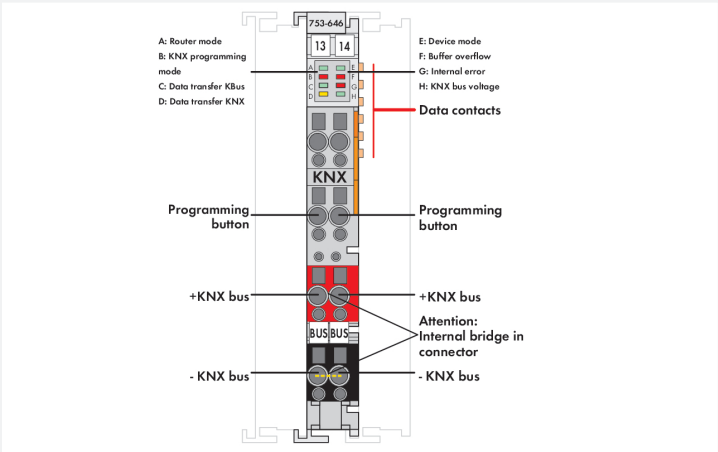
https://www.wago.com/753-646

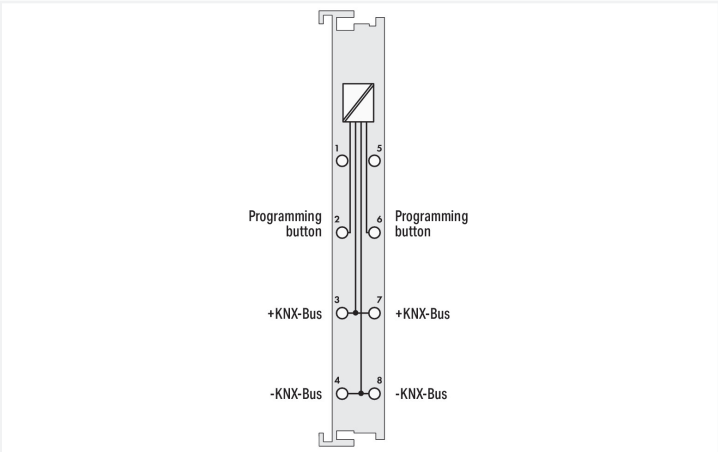




Color: light gray







The 753-646 KNX/EIB/TP1 Module connects to a KNX/EIB/TP1 network. This module supports two different functions:
1. Device mode: With this module, all programmable fieldbus controllers relevant for building automation can be connected to a KNX/TP1 network. In a KNX network, the module appears as a standard KNX device and is linked via ETS 3 Professional Commissioning Tool. The module supports a maximum of 253 communication objects with any DPTs, 254 group addresses and 254 associations. The application is programmed via WAGO-I/O-PRO Software. An ETS plug-in, which is included in the WAGO product database, is required so that the data from the application program can be allocated to the group addresses.
2. Router mode: When the 750-849 or 750-889 KNX IP Controller is connected to the first 753-646 KNX/EIB/TP1 Module, the device can be used as a KNXnet/IP router. The module is switched to the router mode automatically. An application program is not required for operation in router mode. Additional modules that

are connected to a KNX IP Controller are addressed in device mode by the application.
WAGO's 753 Series Pluggable Connector with internally bridged contacts (3/7 and 4/8) is part of the delivery.
Both an external KNX power supply and ETS Professional Software are required to operate the KNX/EIB/TP1 Module.

Technical data

Device specification	KNX/TP1 Bus Specification: 1.0
Device-specific	Number of group addresses: 254; Number of communication objects: 253; Number of associations: 254
Current consumption, typ.	5 mA (KNX)
Transmission rate	9.6 kBd (KNX)
Data width	24 bytes
Supply voltage	KNX: via KNX power supply unit
Commissioning	WAGO-I/O-*PRO* V2.3
Advanced diagnostics	via FbKNX_Master_646 function block (device mode)
Supply voltage (system)	5 VDC; via data contacts
Current consumption (system supply)	25 mA
Isolation	2.5 kV (rms)
Indicators	LED (A, C, E, H) green: router mode, data transfer, local bus, device mode, KNX bus voltage; LED (B, F, G) red: KNX programming mode, buffer overflow, internal error; LED (D) yellow: KNX data transfer

Connection Data

Connection technology: I/O	8 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	Inputs/outputs
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches
Connection point (other) designation	Programming button; bridge 2/6

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
Pluggable connector	pluggable

Material data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	0.935 MJ
Weight	55.9 g
Conformity marking	CE

Continued on next page

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 left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom
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 61000-6-2, marine applications
EMC emission of interference	per EN 61000-6-3, marine applications
Exposure to pollutants	per IEC 60068-2-42 and IEC 60068-2-43
Permissible H_2S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO_2 contaminant concentration at a relative humidity 75 %	25 ppm

Commercial data

Product Group	15 (I/O System)
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454778033
Customs tariff number	85389099990

Product Classification

UNSPSC	32151705
eCl@ss 10.0	27-24-26-05
eCl@ss 9.0	27-24-26-05
ETIM 9.0	EC001604
ETIM 10.0	EC001604
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	1303-86-2 1317-36-8 7439-92-1
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	c4a73850-53c4-4d53-8fe0-f75ac132bdbf
SCIP notification number (Belgium)	5275670d-2bae-4c07-9d73-57cef6482cac
SCIP notification number (Bulgaria)	94a656e9-db64-4976-9e8b-110852da7f08
SCIP notification number (Czech Republic)	e0c806f4-4fff-428d-b625-3e4545fd06bf
SCIP notification number (Denmark)	486acf93-c004-4553-99b7-0067b7741d41
SCIP notification number (Finland)	bd569f0c-cfc2-46e3-85c8-4d65e22ad594
SCIP notification number (France)	aa90f140-7c3a-413e-9eba-c0faaf9cbcea
SCIP notification number (Germany)	1143e9db-6937-490a-a5a0-8dff86fbbe66
SCIP notification number (Hungary)	c4edfbc6-7c5d-4db0-9515-f5f7ebe382e7
SCIP notification number (Italy)	97801e87-e097-4c88-b142-b43d0a13ddff
SCIP notification number (Netherlands)	c4a4ffaa-c5b8-4074-bc50-c805f00ed673

Continued on next page

Environmental Product Compliance

SCIP notification number (Poland)	663ff08d-6c29-44cc-bf3a-6a1a55d773c7
SCIP notification number (Romania)	d7daaa34-ef2a-49e9-b37b-811ffb0142e8
SCIP notification number (Sweden)	5f5a5cde-0874-4869-883b-e7e523237bbe

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-MSM750
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	25-0415412
BSH Bundesamt fuer Seeschiffahrt und Hydrographie	-	1104
BV Bureau Veritas S.A.	-	30389/C0 BV
DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
LR Lloyds Register EMEA	-	LR22180952TA
PRS Polski Rejestr Statków	-	TE/1101/880590/23
RINA RINA Germany GmbH	-	ELE343521XG001

Protocol and fieldbus specific certificates

Approval	Standard	Certificate Name
KNX KNX Association cvba	-	61/7946/07; 61/8316/08; 61/8317/08

Continued on next page

Downloads

Environmental Product Compliance

Compliance Search		
Environmental Product Compliance 753-646		

Documentation

Manual		
Manual WAGO KNX DCA (Device Control App)	1.0.0 19.03.2025	pdf 4696.07 KB
Product Manual WAGO ETS Plug-in (Product Data Base)	V 3.0.1	pdf 2808.44 KB
System Manual Series 750/753		
Product Manual KNX/ EIB/TP1 Module	V 2.0.0 15.12.2022	pdf 3538.00 KB

System Description		
750/753 Series I/O-System – General Product Information		pdf 953.35 KB
Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 770.48 KB

Additional Information		
WAGO KNX Concept	V 1.1.1	pdf 2991.23 KB

Bid Text		
753-646	19.02.2019	xml 6.44 KB
753-646	28.06.2018	doc 30.50 KB
ausschreiben.de 753-646		

Application Notes

Application Note CoDeSys 2.3		
KNX Function Macros	V 2020-05-12 12.05.2020	zip 117795.22 KB
Application Note Library KNX_02.lib	09.11.2016 09.11.2016	zip 709.72 KB
Application Note ThebenKNX_DALI	25.08.2016 25.08.2016	zip 727.76 KB
Application Note KNX StarterKit3	13.11.2014 13.11.2014	zip 30180.15 KB

Application Note e!COCKPIT		
eCOCKPIT Application Note WagoAppKNX	1.0.3 06.12.2021	pdf 1109.70 KB

Continued on next page

CAD/CAE-Data

CAD data

2D/3D Models 753-646

CAE data

EPLAN Data Portal 753-646

WSCAD Universe 753-646

ZUKEN Portal 753-646

Libraries

Plugin

WAGO KNX DCA (Device Control App)	1.1.0.0 11.03.2025	zip 5472.88 KB	

Product database

WAGO product database for KNX Router 750-889 / 750-849 + 753-646	2.0.373.598 26.11.2016	zip 40.47 KB	
WAGO product database for KNX module 753-646	2.0.367.581 26.11.2016	zip 2199.81 KB	

e!COCKPIT libraries

e!COCKPIT Library Description WagoAppKNX	1.0.5.0 29.09.2023	pdf 3289.96 KB	

Library

Libraries for Building Automation CODESYS 2.3	2025-01-30 30.01.2025	zip 71441.83 KB	

1 Compatible Products

1.1 Optional Accessories

1.1.1 DIN-rail

1.1.1.1 Mounting accessories



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



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



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



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



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



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



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

Continued on next page

1.1.2 Marking

1.1.2.1 Group marker carrier



Item No.: 750-107
Group marker carrier

1.1.2.2 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

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

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

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

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

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

Item No.: 2009-145
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

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

Item No.: 248-501/000-006
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

Item No.: 248-501/000-007
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

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

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

Item No.: 248-501/000-012
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

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

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

Item No.: 248-501
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

Item No.: 248-501/000-002
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow

1.1.2.3 Marker carrier



Item No.: 750-103
Group marker carrier

1.1.3 Pluggable connector

1.1.3.1 Coding



Item No.: 753-150
753 Series coding elements

Continued on next page

1.1.4 Shield termination

1.1.4.1 Shield clamping saddles



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



Item No.: 790-208
Shield clamping saddle; 12.4 mm wide; 3 … 8 mm



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



Item No.: 790-216
Shield clamping saddle; 21.8 mm wide; 6 … 16 mm



Item No.: 790-124
Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 … 24 mm



Item No.: 790-220
Shield clamping saddle; 30 mm wide; 6 … 20 mm



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

1.1.5 System enclosure

1.1.5.1 System enclosure



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



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



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



Item No.: 850-828
IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



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



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



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



Item No.: 850-834
IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20



Item No.: 850-835
IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



Item No.: 850-836
IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



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



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



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



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