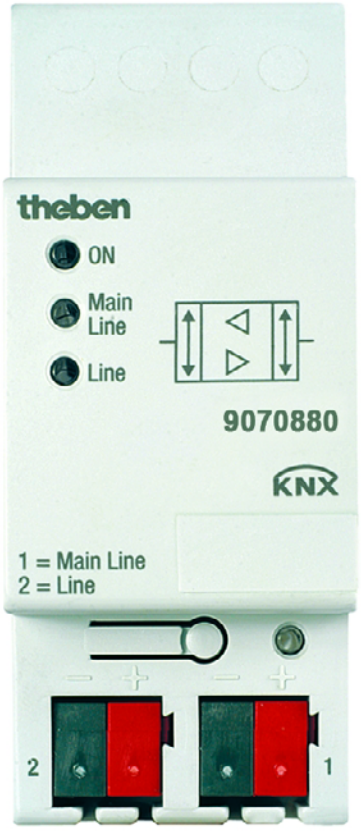
Line coupler S KNX



Line coupler S KNX	9070880

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1 General

The Theben Line Coupler S KNX is a modular installation device with a module width of 2 space units. It is used as a line or area coupler or as a repeater. As a line coupler, the Line coupler S connects a line with a main line, as an area coupler it connects a main line with an area line. It provides electrical isolation in this way.

1.1 Using the product manual

This manual provides you with detailed technical information relating to the function, installation and programming of the Line Coupler. The application of the device is explained using examples.

The manual is divided into the following sections:

- Chapter 1 General
- Chapter 2 Device technology
- Chapter 3 Commissioning
- Chapter A Appendix

1.1.1 Structure of the product manual

Application programs with different ranges of functions can be loaded in the line couple S.

For this reason, all the parameters and functions for ETS 4 and also for ETS 3 are explained in chapter 3.

Note
Different application programs are available with the line coupler S for ETS 3 and ETS 4. Some of the functions for the ETS 4 are not available in the applications for the ETS 3, see Overview, page 16. In ETS 3, there is a separate application for coupling and for repeating (*Couple/1.x* or *Repeat/1.x),* in ETS 4, there is a common application (*Couple Repeat/2.x).* All applications are upwards compatible, i.e.: • The old applications of line coupler can be loaded in the line coupler S (ETS 3). This is particularly useful if in an existing project an line coupler has to be replaced by an line coupler S. • The applications *Couple/1.x* or *Repeat/1.x* can be loaded in the line coupler S via the ETS 3 or the ETS 4. • The new application *Couple Repeat/2.x* with extended functional range is only available for the ETS 4.

1.1.2 Notes

Notes and safety instructions are represented as follows in this manual:

Note
Tips for usage and operation

Examples
Application examples, installation examples, programming examples

Important
These safety instructions are used as soon as there is danger of a malfunction without risk of damage or injury.

Caution
These safety instructions are used as soon as there is danger of a malfunction without risk of damage or injury.

 **Danger**
These safety instructions are used if there is a danger for life and limb with inappropriate use.

 **Danger**
These safety instructions are used if there is a danger to life with inappropriate use.

1.2 Product and functional overview

The Line Coupler Line Coupler S can be used as a line/area coupler or as a repeater.

1.2.1 Line/area coupler

As a line/area coupler, the Line Coupler S connects the data flow of two lines but isolates them electrically.

The coupler can route physically addressed, group addressed as well as broadcast telegrams.

In order to route a physically addressed telegram, the Line Coupler S compares the target address with its own physical address. The physical address of the Line Coupler S determines the line affiliation. The telegrams are routed or not routed depending on the evaluation and parameterization.
If the Line Coupler S has not yet received its intended project-assigned physical address, this can cause device faults during commissioning.

The Line Coupler S responds in accordance with its parameterization to telegrams with group addresses.

In order to reduce the telegram traffic, the Line Coupler S only routes telegrams in normal operation (standard settings), whose group addresses have been entered in its filter table. However, it can be useful, particularly during commissioning and for diagnostic purposes, to set the option *route* for both parameters *Group telegrams main group 0…13* and *Group telegrams main group 14…31*, i.e. the filter table is switched off. If the system is fully in operation, both parameters should be reset again to the standard values. The Line Coupler S is then subsequently reprogrammed with the application. Here the correct filter table will be transferred to the Line Coupler S.

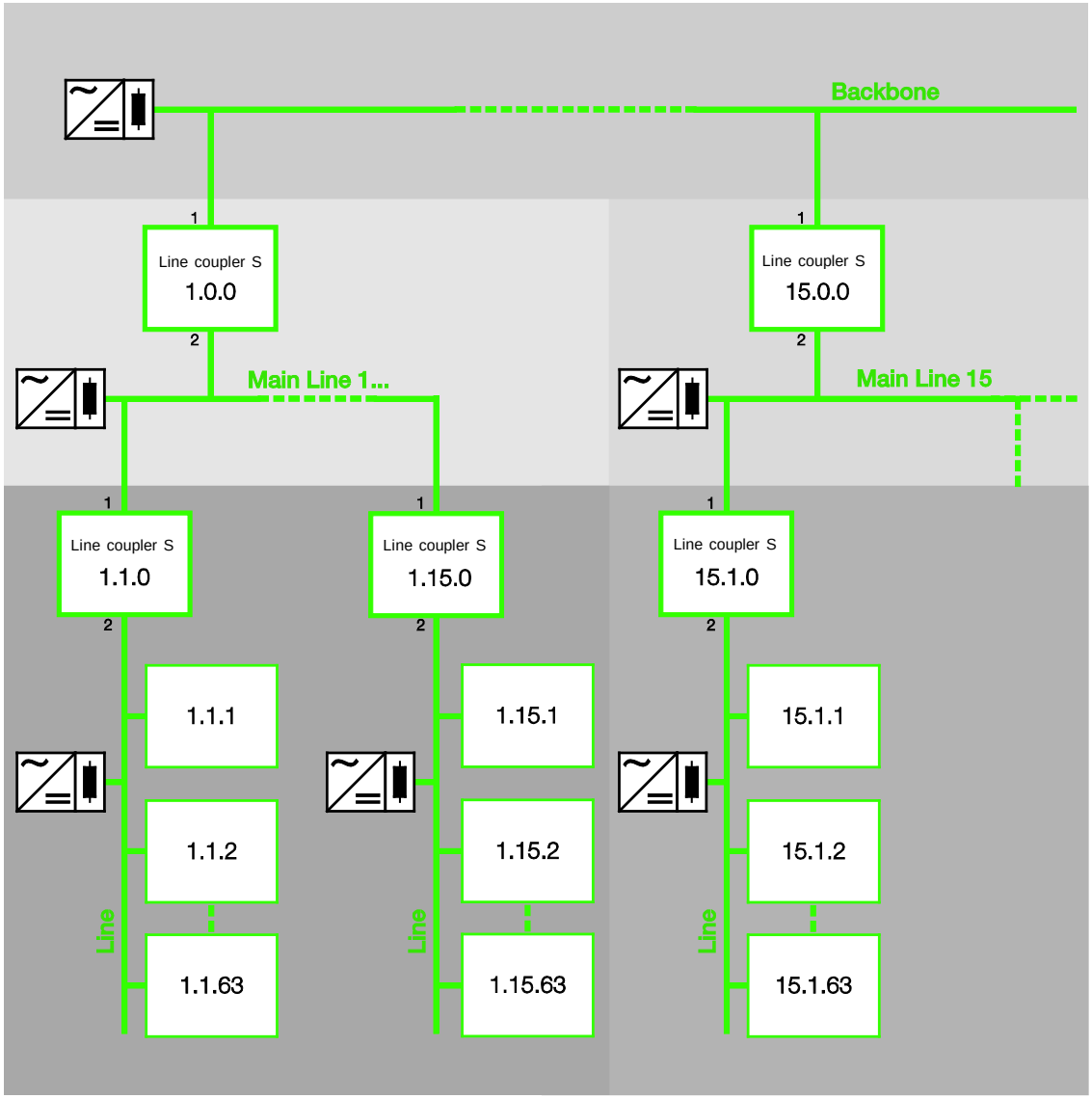
Note
The application *Couple Repeat/2.x* for the ETS 4 filters the main groups 14…31. With the application *Couple/1.x*, no filter table is calculated by the ETS 3 for the main groups 14…31. For this reason, the main groups 14...31 should not be used. If this is necessary, the parameter *Main group 14…31* must be set with the option *route*.

If the Line Coupler S routes a telegram and does not receive an acknowledgement or there is a transmission error, the Line Coupler S repeats the telegram up to three times. With the parameters *In case of errors repeat group telegrams,* the response for both lines is set separately. This parameter should be left as it is in the standard setting.

Normally the Line Coupler S only acknowledges telegrams that it routes. The parameter *Telegram confirmation…* facilitates seperate acknowledgement settings for both lines. This parameter should be left as it is in the standard setting.

Topology

As a line coupler, the device connects a line with a main line. As an area coupler, the line coupler S connects a main line with an area line. Each line requires its own power supply.



Backbone = Area line with up to 15 area couplers, physical address x.0.0

Main Line = Main line with up to 15 line couplers, physical addres x.y.0

Line = Line with up to 64 devices including the line coupler. Up to 256 devices are possible when up to three line repeaters are used.

The function of the device is assigned by the assignment of the physical address.

Note
If a second output of the Power Supply SV/S is used for connection, a DV/S choke must be connected. **For further information refer to the Power supply product manual**

1.2.2 Repeater

As a repeater, the Line coupler S connects the data flow of two line segments but isolates them electrically.

Behind a line coupler (in one line), up to three repeaters can be connected in parallel in a line. This is how up to four line segments form an entire line. A line can thus be expanded from 64 possible devices (1 line) up to 256 devices (4 line segments). Every line segment must be provided with power by its own KNX power supply.

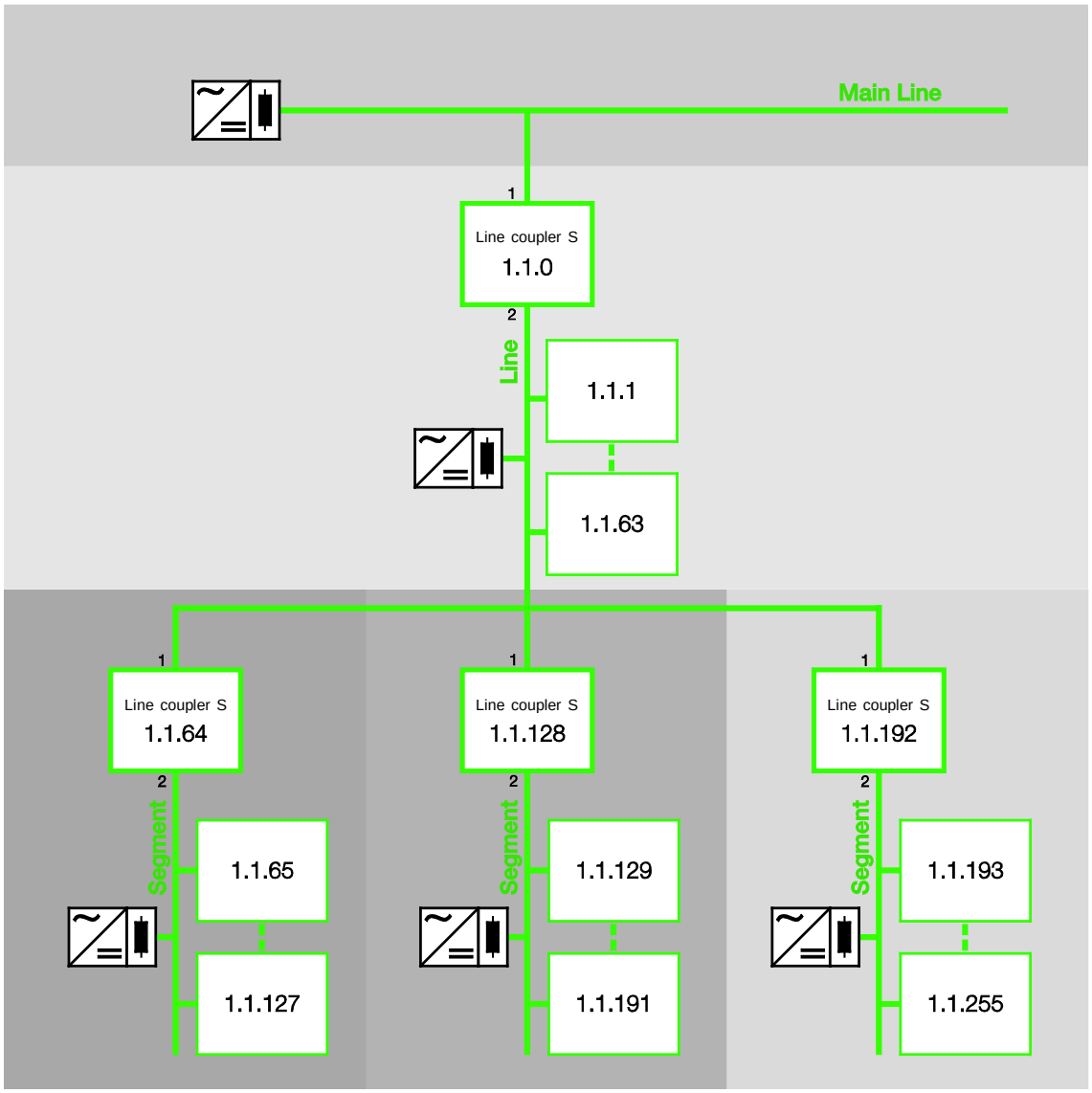
The repeaters do not have filter tables. For this reason, a telegram is sent in all line segments independently of whether or not it is processed in the respective line segment. Whether this telegram is initiated within the line or whether it has been sent from the main line via the repeater is also irrelevant.

If there is a transmission error of a physically addressed telegram, this telegram is not repeated.

If the repeater routes a telegram and does not receive an acknowledgement or there is a transmission error, the repeater repeats the telegram up to three times. With the parameters *In case of errors repeat group telegrams,* the response for both line segments is set separately.

Topology

Up to three repeaters are connected in parallel in a line. Each line segment requires its own power supply.



Main Line = Main line with up to 15 line couplers

Line = Line with up to three repeaters

Line Segment = Line segment, per segment up to 64 devices are possible (in total up to 256 devices are possible) including the repeater.

Note
The topology is not defined with the repeater. Under the coupler 1.1.0, the addresses 1.1.0 to 1.1.255 can be assigned as required to the segments.

2 Device technology

9070880

The Theben Line Coupler S KNX is a modular installation device with a module width of 2 space units.
It is used as a line or area coupler or as a repeater.
As a line coupler, the Line coupler S connects a line with a main line, as an area coupler it connects a main line with an area line. It provides electrical isolation in this way.

If required, the Line coupler S filters telegrams and only routes the telegrams intended for other lines. It is possible to route or block all telegrams for diagnostic purposes.

2.1 Technical data

Supply	Rated voltage	21…31 V DC, via the bus
	Power consumption	Maximum 0.25 W
	Current consumption	Maximum 12 mA
Connections	KNX, subline (2 = Line)	Via left bus connection terminal
	KNX, subline (1 = Main line)	Via right bus connection terminal
Operating and display elements	Button/LED (red)	For assignment of the physical address
	LED ON (green)	For indicating operation
	LED Main Line (yellow)	For indicating telegram traffic on the main line
	LED Line (yellow)	For indicating telegram traffic on the sub line
Enclosure	IP 20	To EN 60 529
Safety class	III, in the installed state	To EN 61 140
Insulation category	Overvoltage category Pollution degree	III to EN 60 664-1 II to EN 60 664-1
KNX safety extra low voltage	SELV 31 V DC	
EMC requirements	Compliant to EN 61000-6-2, EN 61000-6-3 and EN 50090-2-2	

Temperature range	Operation	-5 °C…+45 °C
	Storage	-25 °C…+55 °C
	Transport	-25 °C…+70 °C
Ambient conditions	Maximum air humidity	To EN 50 491 95 %, no condensation allowed
Design	Modular installation device (MDRC)	Modular installation device, Pro *M*
	Dimensions	90 x 36 x 64.5 mm (H x W x D)
	Mounting width	2 modules at 18 mm
	Mounting depth	64.5 mm
Installation	On 35 mm mounting rail	To EN 60 715
Mounting position	As required	
Weight without packaging	0.075 kg	
Housing/colour	Plastic housing, grey	
Approval	EN 60 669-1, EN 50 428	
KNX certification	EN 50 090-2-2, EN 50 491	
CE mark	In accordance with the EMC guideline and low voltage guideline, RoHS	

Device type	Application program	Maximum number of communication objects	Maximum number of group addresses	Maximum number of associations
Line coupler S	Couple Repeat/…*	0	0	0
	Couple/…*	0	0	0
	Repeat/…*	0	0	0

* … = current version number of the application program.

Note

The ETS and the current version of the device application program are required for programming.

The current application program can be found with the respective software information for download on the Internet at www.theben.de/downloads. After import it is available in the ETS under *Theben AG/System components/..*.

The device does not support the locking function of a KNX device in the ETS. If you inhibit access to all devices of the project with a *BCU code*, it has no effect on this device. Data can still be read and programmed.

Note

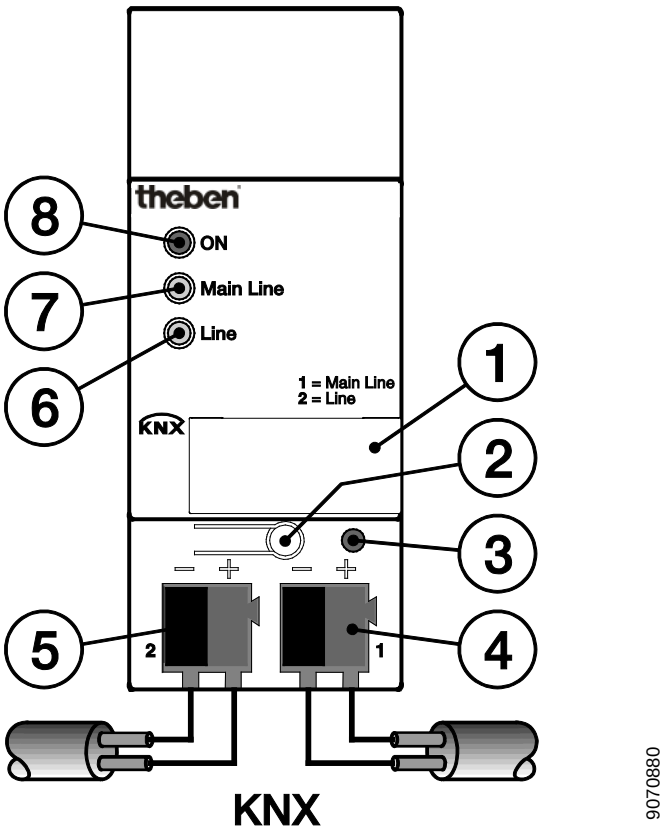
Different application programs are available with the Line coupler S for ETS 3 and ETS 4. Some of the functions for the ETS 4 are not available in the applications for the ETS 3, see Overview, page 16.

In ETS 3, there is a separate application for coupling and for repeating (*Couple/1.x* or *Repeat/1.x),* in ETS 4, there is a common application (*Couple Repeat/2.x).*

All applications are upwards compatible, i.e.:

- The old applications of Line coupler can be loaded in the Line coupler S (ETS 3). This is particularly useful if in an existing project an Line coupler has to be replaced by an Line coupler S.
- The applications *Couple/1.x* or *Repeat/1.x* can be loaded in the Line coupler S via the ETS 3 or the ETS 4.
- The new application *Couple Repeat/2.x* with extended functional range is only available for the ETS 4.

2.2 Circuit diagram



Line coupler S

1 Label carrier

2 Button *Programming*

3 LED *Programming* ● (red)

4 Bus connection terminal of the primary/main line

5 Bus connection terminal of the secondary line

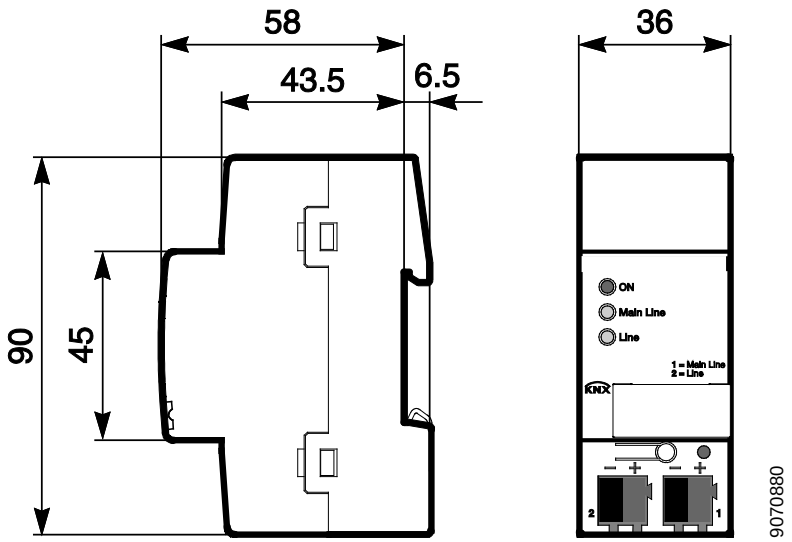
6 LED Line (yellow)

7 LED Main Line (yellow)

8 LED ON (green)

Note
The main and secondary lines must each be supplied with power from separate power sources (electrically isolated).

2.3 Dimension drawing



Line coupler S

2.4 Assembly and installation

The Line coupler S is a modular installation device for quick installation in the distribution board on 35 mm mounting rails to EN 60 715.

The Line coupler S mounting position can be selected as required.

The connection to the bus is established using the supplied bus connection terminals.

Accessibility to the Line coupler S for the purpose of operation, testing, visual inspection, maintenance and repair must be provided compliant to VDE 0100-520.

Commissioning requirements

In order to commission the Line coupler S, a PC with ETS and a KNX interface, e.g. USB or IP, are required. The Line coupler S is ready for operation, after bus voltage is connected to the main line.

For programming the Line Coupler, it is necessary to at least connect the primary line. If the secondary subline is also connected, the Line coupler S can also be programmed from the secondary subline.

The installation and commissioning may only be carried out by electrical specialists. The appropriate norms, guidelines, regulations and specifications for your country should be observed when planning and setting up electrical installations and security systems for intrusion and fire detection.

Protect the device from damp, dirt and damage during transport, storage and operation.

Only operate the device within the specified technical data limits!

The device should only be operated in an enclosed housing (distribution board)!

Supplied state

The Line coupler S is supplied with the physical address 15.15.0.

Assignment of the physical address

The assignment and programming of the physical address is carried out in the ETS.

Button on the Line coupler S is pressed to assign the physical address. The red LED ● lights up. It switches off, as soon as the ETS has assigned the physical address or button has been pressed again. The selection of the physical address is dependent on the required device function (coupler or repeater).

For further information see: Product and functional overview, page 5.

Cleaning

If devices become dirty, they can be cleaned using a dry cloth or a cloth dampened with a soapy solution. Corrosive agents or solutions should never be used.

Maintenance

The Line coupler S is maintenance-free. No repairs should be carried out by unauthorised personnel if damage occurs, e.g. during transport and/or storage.

2.4.1 Display elements

Indicator LEDs are located on the front of the Line coupler S.

The response of the display elements is described in the following table:

LED	KNX operation
ON	*OFF:* The Line coupler S is not operational. No power supply is applied or it has malfunctioned. *ON:* The Line coupler S is operational and is supplied by the main line. The power supply is applied.
Main Line	*OFF:* No main line connected or voltage failure on the main line. *ON:* The main line is connected. *Flashes:* Telegram traffic on the main line.
Line	*OFF:* No line connected or voltage failure on the line. *ON:* A line is connected. *Flashes:* Telegram traffic on the line.

3 Commissioning

The parameterization of the Line coupler S is undertaken using application program *Couple Repeat/2, Couple/1 or Repeat/1* and the Engineering Tool Software ETS.

The application program can be found at *Theben AG/System components/...*

For parameterization purposes, a PC or Laptop with ETS and a connection to the KNX, e.g. via RS232, USB or IP interface, is required.

3.1 Overview

The following table provides an overview of the functions possible with the Line coupler S and the application programs *Couple Repeat 2.x* (ETS 4) as well as *Couple/1.x* or *Repeat/1.x* (ETS 3).

Line/Area Coupler **properties**	**ETS 3**	**ETS 4**
Function *Line/Area Coupler*	■	■
Filter group telegrams main group 0...13	■	■
Filter group telegrams main group 14...31		■
Block physically addressed telegrams		■
Block broadcast telegrams		■
In case of errors repeat telegrams	■	■
Telegram confirmation	■	■

■ = property applies

Repeater **properties**	**ETS 3**	**ETS 4**
Function *Repeater*	■	■
In case of errors repeat telegrams	■	■

■ = property applies

3.2 Parameters

The parameterization of the Line coupler S is implemented using the Engineering Tool Software ETS.

The application program can be found in the ETS at *Theben AG/System components/...*

The following chapter describes the parameters of the Line coupler S using the parameter windows. The parameter windows feature a dynamic structure, so that further parameters may be enabled depending on the parameterization and the function.

The default values of the parameters are underlined,

e.g.:

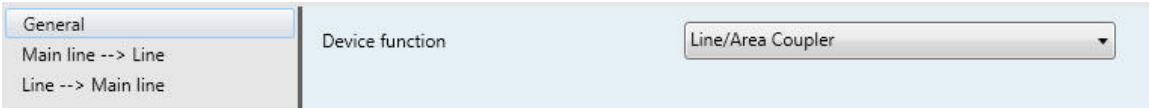
Options: yes
no

3.2.1 Application for ETS 4

The application *Couple Repeat/2.x* with extended functional range is only available for the Line coupler S and ETS 4.1.2 or higher.

3.2.1.1 Parameter window *General*

The device functions are defined in this parameter window.



Device function

Options: Line/Area Coupler
Repeater

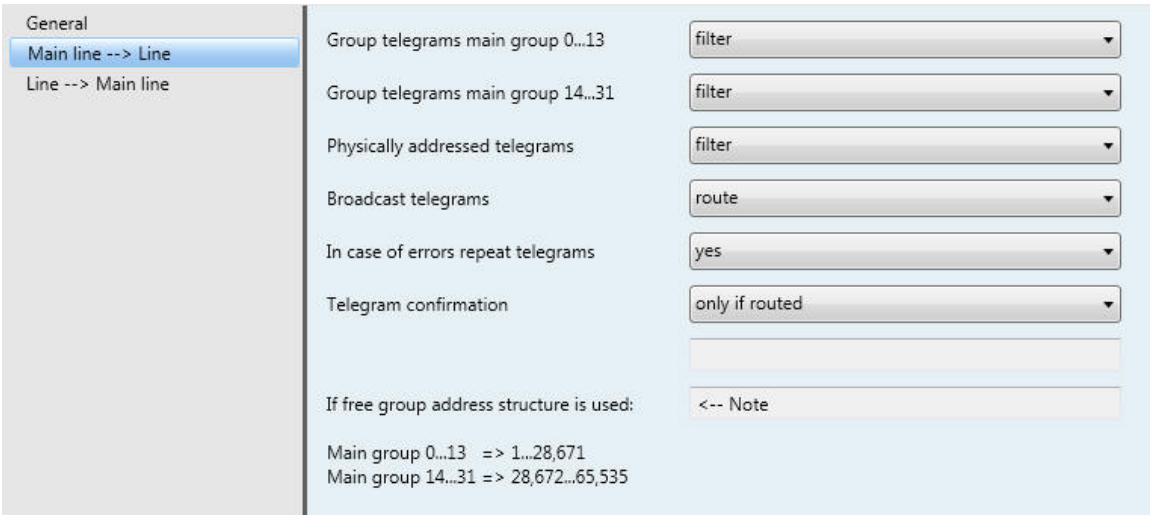
- *Line/Area Coupler:* The data flow between two lines is connected. Both lines are electrically isolated from one another. The Parameter window Main line --> Line, page 19, and Parameter window Line --> Main line, page 22, appear.
- *Repeater:* The data flow between two line segments is connected. Both lines are electrically isolated from one another. Parameter window Settings, page 23, is enabled.

3.2.1.2 Device function - *Line/Area Coupler*

3.2.1.2.1 Parameter window *Main line --> Line*

This parameter window is visible if in Parameter window General, page 18, the device function *Line/Area Coupler* has been selected.

In this parameter window, the settings for the connection from the primary/main line to the line are undertaken.



Group telegrams main group 0...13

Group telegrams main group 14...31

Option: filter
route
block

- *filter:* Only group telegrams entered into the filter table are routed. The ETS automatically creates the filter table.
- *route:* All group telegrams are routed.
- *Block:* All group telegrams are blocked.

Physically addressed telegrams

Option: filter
block

- *filter:* Physically addressed telegrams (programming telegrams) are routed according to the topology.
- *block:* Physically addressed telegrams are blocked.

Broadcast telegrams

Options: route
block

Broadcast telegrams are used, for example, by the ETS to identify KNX devices in programming mode.

- *route:* Broadcast telegrams are routed.
- *Block:* Broadcast telegrams are blocked.

In case of errors repeat telegrams

Options: yes
no
user-defined

- *yes:* If an error is detected when a telegram is transmitted, the telegram is repeated up to three times.
- *no:* The telegram is not repeated.
- *user-defined:* The response can be set individually for different types of telegram.

  Repeat group addressed telegrams

  Options: yes
  no

  - *yes:* If an error is detected when a group addressed telegram is transmitted, the telegram is repeated up to three times.
  - *no:* The telegram is not repeated.

  Repeat physically addressed telegrams

  Options: yes
  no

  - *yes:* If an error is detected when a physically addressed telegram is transmitted, the telegram is repeated up to three times.
  - *no:* The telegram is not repeated.

  Repeat broadcast telegrams

  Options: yes
  no

  - *yes:* If an error is detected when a broadcast telegram is transmitted, the telegram is repeated up to three times.
  - *no:* The telegram is not repeated.

Telegram confirmation

Options: only if routed
always

- *only if routed:* Telegrams that are routed are acknowledged.
- *always:* Every telegram is acknowledged.

The following applies with a group address view:

Main groups 0…13 => 1…28,671
Main groups 14…31 => 28,672…65,535

<−−−NOTE

In the ETS 4 it is possible to not just assign two or three-stage group addresses, it is possible to freely assign them. If the free group address view is selected, main group 0…13 corresponds to subgroup range 1…28,671 and main group 14…31 with subgroup range 28,672…65,535. Relevant details can be read with the assistance of the Help in the ETS.

3.2.1.2.2 Parameter window *Line --> Main line*

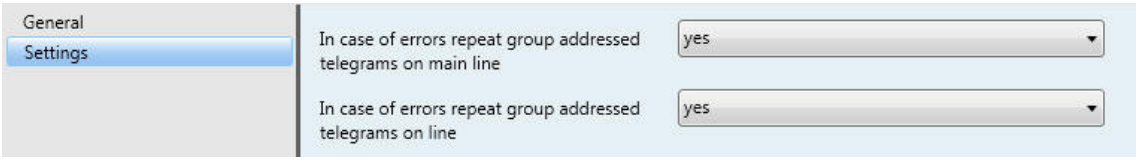
This parameter window is visible if in Parameter window General, page 18, the device function *Line/Area Coupler* has been selected.

In this parameter window, the telegram functions for the connection from a secondary line to the primary/main line are defined.

The parameter setting of the connections *Line --> Main line* and *Main line --> Line* do not differentiate from one another. The descriptions of the parameter setting options are described in Parameter window Main line --> Line, page 19.

3.2.1.3 Device function *Repeater*

3.2.1.3.1 Parameter window *Settings*



This parameter window is visible if in Parameter window General, page 18, the device function *Repeater* has been selected.

In case of errors repeat group addressed telegrams on main line

Options: yes
no

- *yes:* If an error is detected when a group addressed telegram is transmitted on the main line, the telegram is repeated up to three times.
- *no:* The telegram is not repeated.

In case of errors repeat group addressed telegrams on line

Options: yes
no

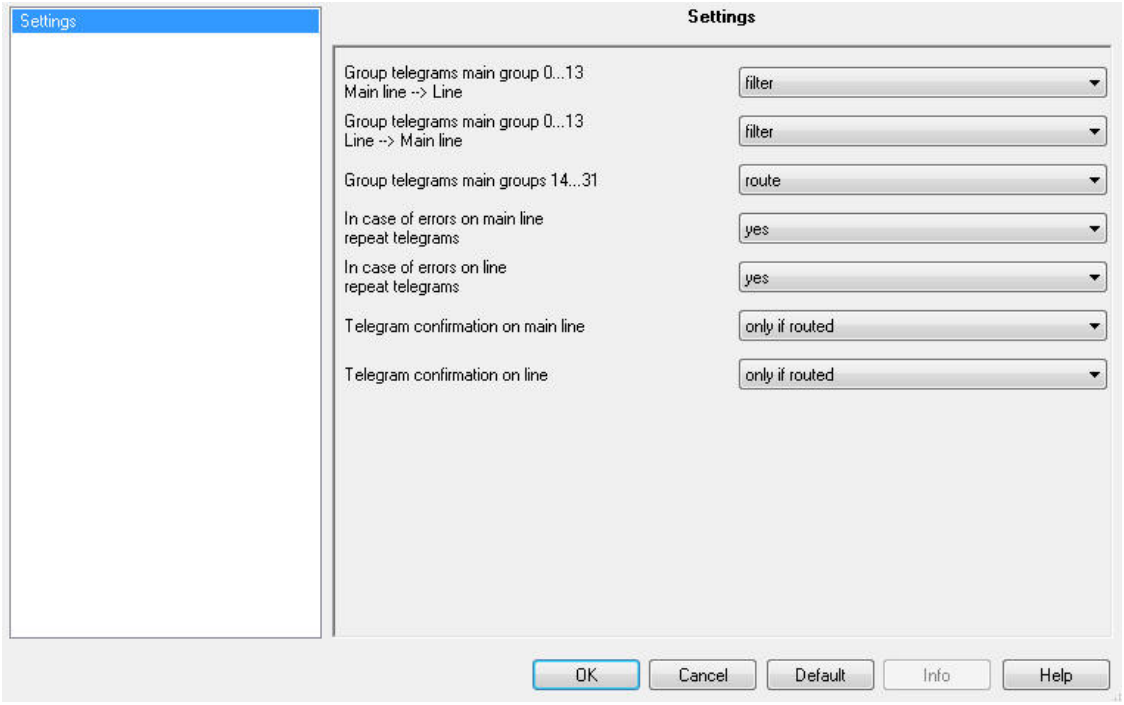
- *yes:* If an error is detected when a group addressed telegram is transmitted on a line, the telegram is repeated up to three times.
- *no:* The telegram is not repeated.

3.2.2 Applications for the ETS 3

The applications *Couple/1.x* and *Repeat/1.x* can be loaded in the Line coupler S via the ETS 3.

3.2.2.1 Application *Couple/1.x*, parameter window *Settings*

In this parameter window, the settings for the Area/Line Coupler are defined.



Group telegrams main group 0...13
Main line --> Line

Group telegrams main group 0...13
Line --> Main line

Option: filter
route
block

- *filter:* Only group telegrams entered into the filter table are routed. The ETS automatically creates the filter table.
- *route:* All group telegrams are routed.
- *Block:* All group telegrams are blocked.

Group telegrams main group 14...31

Options: route
block

- *route:* All group telegrams are routed.
- *Block:* All group telegrams are blocked.

In case of errors repeat group addressed telegrams on main line

In case of errors repeat group addressed telegrams on line

Options: yes
no

- *yes:* If an error is detected when a telegram is transmitted, the telegram is repeated up to three times.
- *no:* The telegram is not repeated.

Telegram confirmation on Main Line

Telegram confirmation on Line

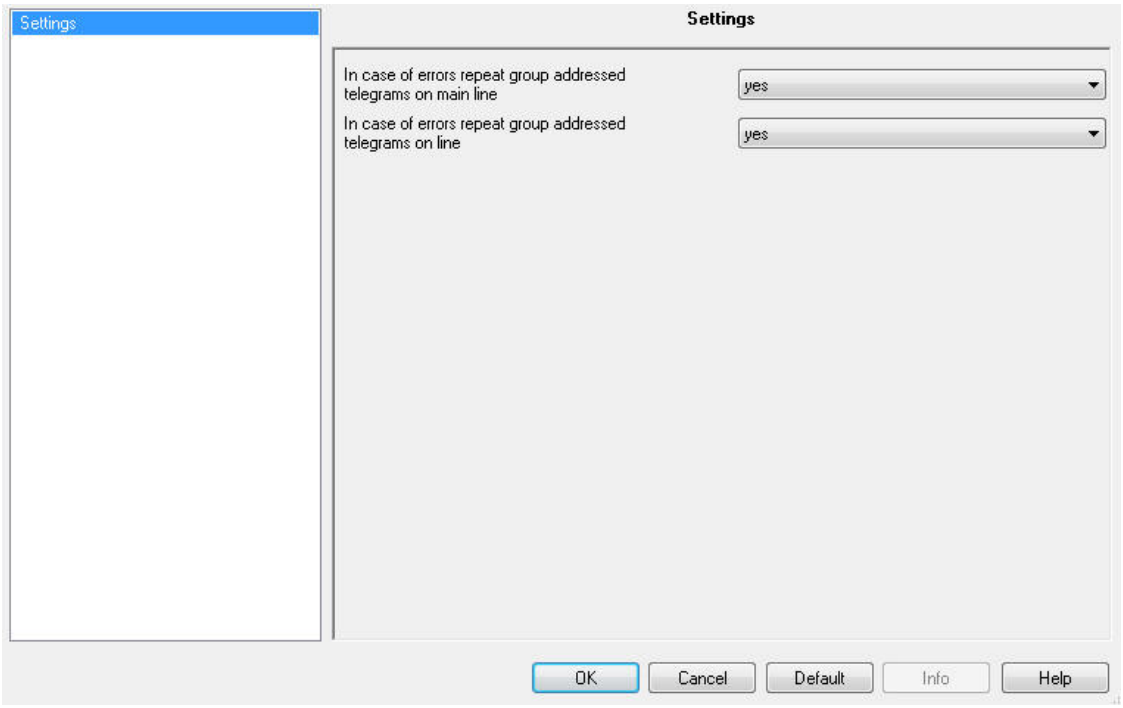
Options: only if routed
always

- *only if routed:* Telegrams that are routed are acknowledged.
- *always:* All telegrams are acknowledged.

3.2.2.2 Application *Repeat/1x*

3.2.2.2.1 Parameter window *Settings*

In this parameter window, the settings for the function *Repeater* are undertaken.



In case of errors repeat group addressed telegrams on main line

Options: yes
no

- *yes:* If an error is detected when a group addressed telegram is transmitted on the main line, the telegram is repeated up to three times.
- *no:* The telegram is not repeated.

In case of errors repeat group addressed telegrams on line

Options: yes
no

- *yes:* If an error is detected when a group addressed telegram is transmitted on a line, the telegram is repeated up to three times.
- *no:* The telegram is not repeated.

A Appendix

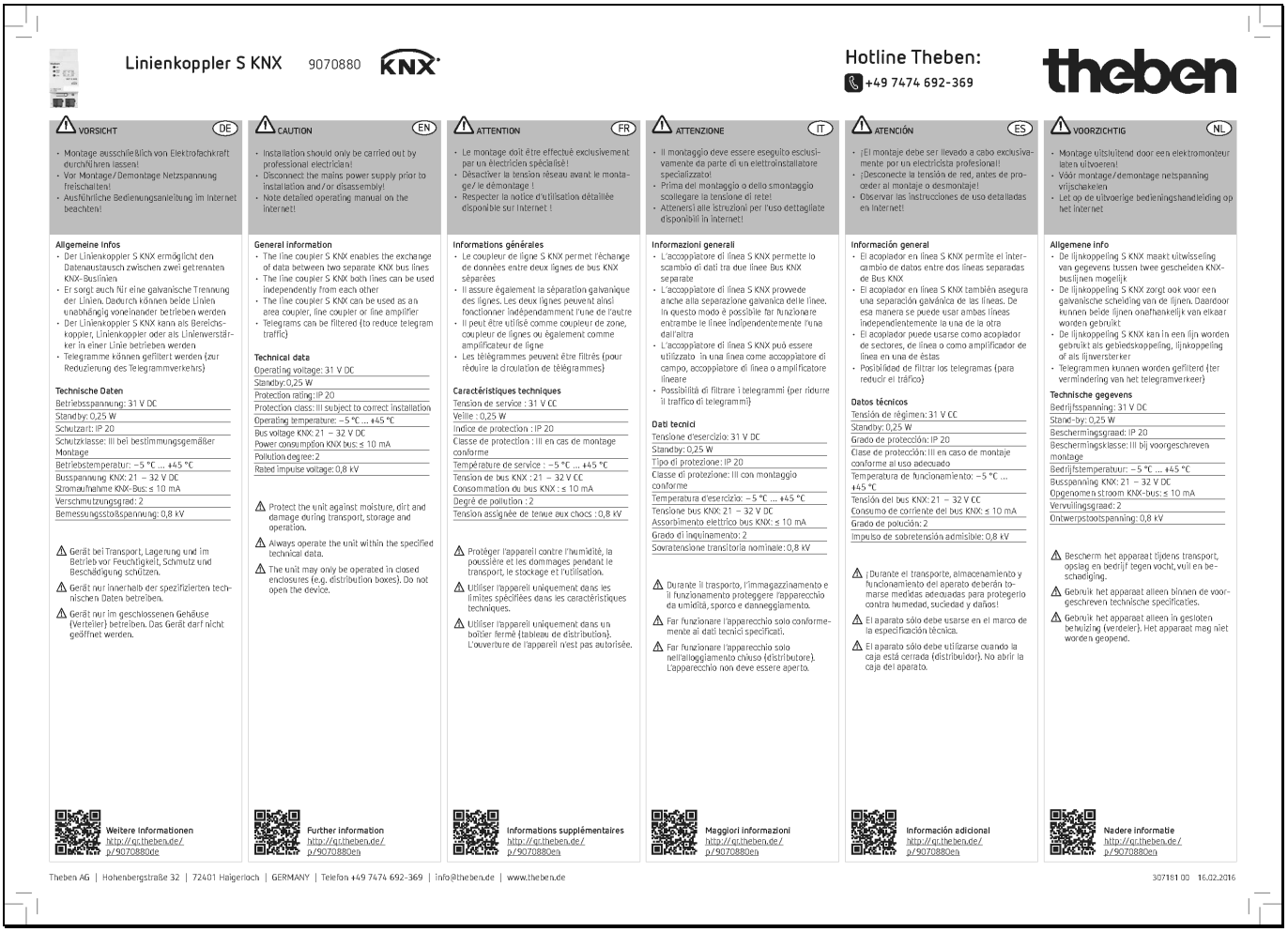
A.1 Scope of delivery

The Theben AG Line coupler S is supplied together with the following components.

Please check the items received using the following list.

- 1 x Line coupler S
- 1 x installation and operating instructions
- 2 x bus connection terminal (red/black)

4 Manual



Linienkoppler S KNX 9070880 KNX

Hotline Theben:
+49 7474 692-369

theben

VORSICHT (DE)

- Montage ausschließlich von Elektrofachkraft durchführen lassen!
- Vor Montage/Demontage Netzspannung freischalten!
- Ausführliche Bedienungsanleitung im Internet beachten!

Allgemeine Infos

- Der Linienkoppler S KNX ermöglicht den Datenaustausch zwischen zwei getrennten KNX-Buslinien
- Er sorgt auch für eine galvanische Trennung der Linien. Dadurch können beide Linien unabhängig voneinander betrieben werden
- Der Linienkoppler S KNX kann als Bereichskoppler, Linienkoppler oder als Linienverstärker in einer Linie betrieben werden
- Telegramme können gefiltert werden (zur Reduzierung des Telegrammverkehrs)

Technische Daten

Betriebsspannung: 31 V DC
Standby: 0,25 W
Schutzart: IP 20
Schutzklasse: III bei bestimmungsgemäßer Montage
Betriebstemperatur: –5 °C ... +45 °C
Busspannung KNX: 21 – 32 V DC
Stromaufnahme KNX-Bus: ≤ 10 mA
Verschmutzungsgrad: 2
Bemessungsstoßspannung: 0,8 kV

⚠ Gerät bei Transport, Lagerung und im Betrieb vor Feuchtigkeit, Schmutz und Beschädigung schützen.

⚠ Gerät nur innerhalb der spezifizierten technischen Daten betreiben.

⚠ Gerät nur im geschlossenen Gehäuse (Verteiler) betreiben. Das Gerät darf nicht geöffnet werden.

Weitere Informationen
http://qr.theben.de/p/9070880de

CAUTION (EN)

- Installation should only be carried out by professional electrician!
- Disconnect the mains power supply prior to installation and/or disassembly!
- Note detailed operating manual on the Internet!

General information

- The line coupler S KNX enables the exchange of data between two separate KNX bus lines
- The line coupler S KNX both lines can be used independently from each other
- The line coupler S KNX can be used as an area coupler, line coupler or line amplifier
- Telegrams can be filtered (to reduce telegram traffic)

Technical data

Operating voltage: 31 V DC
Standby: 0,25 W
Protection rating: IP 20
Protection class: III subject to correct installation
Operating temperature: –5 °C ... +45 °C
Bus voltage KNX: 21 – 32 V DC
Power consumption KNX bus: ≤ 10 mA
Pollution degree: 2
Rated impulse voltage: 0,8 kV

⚠ Protect the unit against moisture, dirt and damage during transport, storage and operation.

⚠ Always operate the unit within the specified technical data.

⚠ The unit may only be operated in closed enclosures (e.g. distribution boxes). Do not open the device.

Further information
http://qr.theben.de/p/9070880en

ATTENTION (FR)

- Le montage doit être effectué exclusivement par un électricien spécialisé!
- Désactiver la tension réseau avant le montage/ le démontage !
- Respecter la notice d'utilisation détaillée disponible sur Internet !

Informations générales

- Le coupleur de ligne S KNX permet l'échange de données entre deux lignes de bus KNX séparées
- Il assure également la séparation galvanique des lignes. Les deux lignes peuvent ainsi fonctionner indépendamment l'une de l'autre
- Il peut être utilisé comme coupleur de zone, coupleur de lignes ou également comme amplificateur de ligne
- Les télégrammes peuvent être filtrés (pour réduire la droulation de télégrammes)

Caractéristiques techniques

Tension de service : 31 V CC
Veille : 0,25 W
Indice de protection : IP 20
Classe de protection : III en cas de montage conforme
Température de service : –5 °C ... +45 °C
Tension de bus KNX : 21 – 32 V CC
Consommation du bus KNX : ≤ 10 mA
Degré de pollution : 2
Tension assignée de tenue aux chocs : 0,8 kV

⚠ Protéger l'appareil contre l'humidité, la poussière et les dommages pendant le transport, le stockage et l'utilisation.

⚠ Utiliser l'appareil uniquement dans les limites spécifiées dans les caractéristiques techniques.

⚠ Utiliser l'appareil uniquement dans un boîtier fermé (tableau de distribution). L'ouverture de l'appareil n'est pas autorisée.

Informations supplémentaires
http://qr.theben.de/p/9070880en

ATTENZIONE (IT)

- Il montaggio deve essere eseguito esclusivamente da parte di un elettroinstallatore specializzato!
- Prima del montaggio o dello smontaggio scollegare la tensione di rete!
- Attenersi alle istruzioni per l'uso dettagliate disponibili in Internet!

Informazioni generali

- L'accoppiatore di linea S KNX permette lo scambio di dati tra due linee Bus KNX separate
- L'accoppiatore di linea S KNX provvede anche alla separazione galvanica delle linee. In questo modo è possibile far funzionare entrambe le linee indipendentemente l'una dall'altra
- L'accoppiatore di linea S KNX può essere utilizzato in una linea come accoppiatore di campo, accoppiatore di linea o amplificatore lineare
- Possibilità di filtrare i telegrammi (per ridurre il traffico di telegrammi)

Dati tecnici

Tensione d'esercizio: 31 V DC
Standby: 0,25 W
Tipo di protezione: IP 20
Classe di protezione: III con montaggio conforme
Temperatura d'esercizio: –5 °C ... +45 °C
Tensione bus KNX: 21 – 32 V DC
Assorbimento elettrico bus KNX: ≤ 10 mA
Grado di inquinamento: 2
Sovratensione transitoria nominale: 0,8 kV

⚠ Durante il trasporto, l'immagazzinamento e il funzionamento proteggere l'apparecchio da umidità, sporco e danneggiamento.

⚠ Far funzionare l'apparecchio solo conformemente ai dati tecnici specificati.

⚠ Far funzionare l'apparecchio solo nell'alloggiamento chiuso (distributore). L'apparecchio non deve essere aperto.

Maggiori informazioni
http://qr.theben.de/p/9070880en

ATENCIÓN (ES)

- ¡El montaje debe ser llevado a cabo exclusivamente por un electricista profesional!
- ¡Desconecte la tensión de red, antes de proceder al montaje o desmontaje!
- Observar las instrucciones de uso detalladas en Internet!

Información general

- El acoplador en línea S KNX permite el intercambio de datos entre dos líneas separadas de Bus KNX
- El acoplador en línea S KNX también asegura una separación galvánica de las líneas. De esa manera se puede usar ambas líneas independientemente la una de la otra
- El acoplador puede usarse como acoplador de sectores, de línea o como amplificador de línea en una de éstas
- Posibilidad de filtrar los telegramas (para reducir el tráfico)

Datos técnicos

Tensión de régimen: 31 V CC
Standby: 0,25 W
Grado de protección: IP 20
Clase de protección: III en caso de montaje conforme al uso adecuado
Temperatura de funcionamiento: –5 °C ... +45 °C
Tensión del bus KNX: 21 – 32 V CC
Consumo de corriente del bus KNX: ≤ 10 mA
Grado de polución: 2
Impulso de sobretensión admisible: 0,8 kV

⚠ ¡Durante el transporte, almacenamiento y funcionamiento del aparato deberán tomarse medidas adecuadas para protegerlo contra humedad, suciedad y daños!

⚠ El aparato sólo debe usarse en el marco de la especificación técnica.

⚠ El aparato sólo debe utilizarse cuando la caja está cerrada (distribuidor). No abrir la caja del aparato.

Información adicional
http://qr.theben.de/p/9070880en

VOORZICHTIG (NL)

- Montage uitsluitend door een elektromonteur laten uitvoeren!
- Vóór montage/demontage netspanning vrijschakelen
- Let op de uitvoerige bedieningshandleiding op het Internet

Allgemene info

- De lijnkoppeling S KNX maakt uitwisseling van gegevens tussen twee gescheiden KNX-buslijnen mogelijk
- De lijnkoppeling S KNX zorgt ook voor een galvanische scheiding van de lijnen. Daardoor kunnen beide lijnen onafhankelijk van elkaar worden gebruikt
- De lijnkoppeling S KNX kan in een lijn worden gebruikt als gebiedskoppeling, lijnkoppeling of als lijnversterker
- Telegrammen kunnen worden gefilterd (ter vermindering van het telegramverkeer)

Technische gegevens

Bedrijfsspanning: 31 V DC
Stand-by: 0,25 W
Beschermingsgraad: IP 20
Beschermingsklasse: III bij voorgeschreven montage
Bedrijfstemperatuur: –5 °C ... +45 °C
Busspanning KNX: 21 – 32 V DC
Opgenomen stroom KNX-bus: ≤ 10 mA
Vervuilingsgraad: 2
Ontwerpstootspanning: 0,8 kV

⚠ Bescherm het apparaat tijdens transport, opslag en bedrijf tegen vocht, vuil en beschadiging.

⚠ Gebruik het apparaat alleen binnen de voorgeschreven technische specificaties.

⚠ Gebruik het apparaat alleen in gesloten behuizing (verdeler). Het apparaat mag niet worden geopend.

Nadere informatie
http://qr.theben.de/p/9070880en

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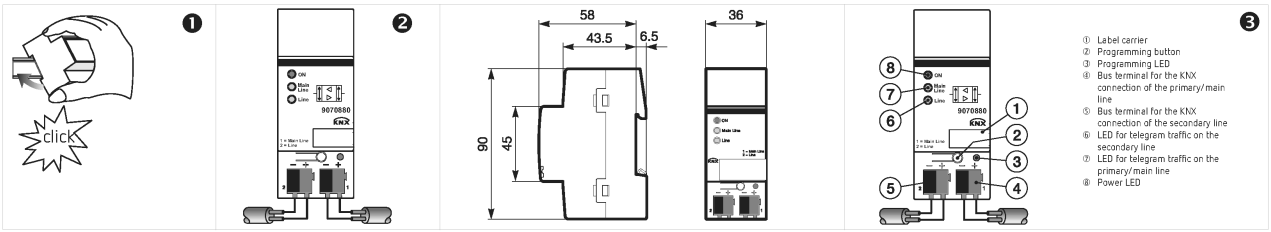

❸

① Label carrier
② Programming button
③ Programming LED
④ Bus terminal for the KNX connection of the primary/main line
⑤ Bus terminal for the KNX connection of the secondary line
⑥ LED for telegram traffic on the secondary line
⑦ LED for telegram traffic on the primary/main line
⑧ Power LED

Bestimmungsgemäße Verwendung (DE)

- Für die Verbindung von KNX Linien oder Bereichen

❶ Montage

➢ Gerät zum Einbau in Verteilern oder Kleingehäusen für Schnellbefestigung auf 35 mm Hutschiene (nach EN 60715)

❷ Anschluss

➢ Spannung freischalten
➢ Die Klemmenbezeichnungen befinden sich auf dem Gehäuse
➢ Die Verbindung zum KNX erfolgt mit der mitgelieferten Busanschlussklemme

❸ Inbetriebnahme und Bedienung

➢ Stromversorgung anschließen.
➢ Die Inbetriebnahme erfolgt mit der Engineering Tool Software (ETS)

Bedienung

- On ⑧: LED leuchtet grün → Spannungsversorgung ist vorhanden und Gerät ist betriebsbereit
- Main Line ⑦: LED leuchtet gelb → die Hauptlinie ist angeschlossen; blinkt bei Telegrammverkehr auf der Hauptlinie
- Line ⑥: LED leuchtet gelb → die Sekundärlinie ist angeschlossen; blinkt bei Telegrammverkehr auf der Sekundärlinie
- Programmier-LED ③ leuchtet rot → Gerät ist im Programmiermodus (nachdem die Programmiertaste ② gedrückt wurde)

Die ETS-Datenbank finden Sie unter **www.theben.de**.
Für detaillierte Funktionsbeschreibungen verwenden Sie bitte das KNX-Handbuch.

Designated Use (EN)

- For connection KNX lines or arees

❶ Installation

➢ The unit is designed to be installed in distribution boxes or small housings for quick mounting on 35 mm support rails in accordance with EN 60715

❷ Connection

➢ Disconnect power source
➢ The terminal identifiers can be found on the housing
➢ The connection to KNX is made via the supplied bus terminal

❸ Start-up and operation

➢ Connect power supply.
➢ Commissioning of the system is carried out using the Engineering Tool Software (ETS)

Operation

- On ⑧: LED lights green when voltage is applied and the device is ready for operation
- Main Line ⑦: LED lights yellow when the main line is connected; flashes when there is telegram traffic on the main line
- Line ⑥: LED lights yellow when the line is connected; flashes when there is telegram traffic on the line
- Programming LED ③ lights red when the device is in the programming mode (after the programming button ② has been pressed)

The ETS database is available at **www.theben.de**.
Please refer to the KNX manual for detailed functional descriptions.

Utilisation conforme à l'usage prévu (FR)

- Pour la connexion des lignes ou des zones KNX

❶ Montage

➢ L'appareil est conçu pour être monté dans un distributeur ou un petit boîtier pour en permettre une fixation rapide sur des profilés supports de 35 mm conformément à l'EN 60715

❷ Raccordement

➢ Couper la tension
➢ La description des bornes se trouve sur le boîtier
➢ La connexion au KNX s'effectue avec la borne de connexion du bus fournie

❸ Mise en service et utilisation

➢ Raccorder l'alimentation électrique
➢ La mise en service se fait via l'Engineering Tool Software (ETS)

Utilisation

- On ⑧: DEL s'allume en vert quand l'alimentation électrique est disponible et l'équipement est prêt à fonctionner
- Main Line ⑦: DEL s'allume en jaune dès que la ligne principale est raccordée ; clignote en cas d'échange de télégrammes sur la ligne principale
- Line ⑥: DEL s'allume en jaune dès que la ligne est raccordée ; clignote en cas d'échange de télégrammes sur la ligne
- DEL programmation ③ s'allume en rouge quand l'appareil est en mode programmation (après pression sur la touche de programmation ②)

La base de données ETS est disponible sous **www.theben.de**.
Pour la description détaillée des fonctions, se reporter au manuel KNX.

Uso conforme (IT)

- Per il collegamento di linee o campi KNX

❶ Montaggio

➢ Apparecchio idoneo all'installazione in distributori o in piccoli alloggiamenti per il fissaggio rapido su guide omega da 35 mm (secondo EN 60715)

❷ Collegamento

➢ Disattivare la tensione
➢ Le sigle dei morsetti sono riportate sulla scatola dell'apparecchio
➢ Il collegamento al KNX viene realizzato con il morsetto di collegamento del bus in dotazione

❸ Messa in servizio e visualizzazione

➢ Collegare l'alimentazione elettrica.
➢ La messa in servizio viene eseguita mediante l'Engineering Tool Software (ETS)

Visualizzazione

- On ⑧: LED acceso in verde se l'alimentazione di tensione è collegata e l'apparecchio è operativo
- Main Line ⑦: LED acceso in giallo non appena viene collegata la linea principale; lampeggia in caso di traffico di telegrammi sulla linea principale
- Line ⑥: LED lacceso in giallo non appena viene collegata la linea; lampeggia in caso di traffico di telegrammi sulla linea
- LED programmazione ③ acceso in rosso se l'apparecchio si trova in modalità di programmazione (dopo aver premuto il pulsante di programmazione ②)

La banca dati ETS si trova **www.theben.de**.
Per descrizioni di funzionamento dettagliate fare riferimento al manuale KNX.

Uso previsto (ES)

- Para la conexión de líneas o áreas KNX

❶ Montaje

➢ El aparato es apropiado para el montaje en distribuidores o cajas pequeñas para fijación rápida en regletas de montaje de 35 mm según EN 60715

❷ Conexión

➢ Desconectar la tensión
➢ La denominación de los terminales se encuentra en la superficie de la caja
➢ La conexión al KNX se efectúa mediante el borne de conexión a bus, que acompaña al aparato

❸ Puesta en funcionamiento y control

➢ Conectar el suministro de corriente
➢ La puesta en funcionamiento se realiza mediante el software de herramientas Engineering Tool (ETS)

Visualización

- On ⑧: LED se pone verde si hay alimentación de corriente y si el aparato está listo para funcionar
- Main Line ⑦: LED se pone amarillo tan pronto se ha conectado la línea principal, el tránsito de telegramas parpadea en la línea principal
- Line ⑥: LED se pone amarillo tan pronto se ha conectado la línea principal, el tránsito de telegramas parpadea en la línea principal
- Diodo de programación ③ se pone rojo cuando el aparato está en modo de programación (después de haber pulsado el botón de programación ②)

Encontrará la base de datos ETS en **www.theben.de**. Consulte el manual KNX si desea obtener una descripción detallada del funcionamiento.

Bedoeld gebruik (NL)

- Voor de koppeling van KNX-lijnen of -bereiken

❶ Montage

➢ Het apparaat is geschikt voor inbouw in verdelers of kleine behuizingen voor snelbevestiging op 35 mm dreegrails, conform EN 60715

❷ Aansluiting

➢ Spanning uitschakelen
➢ De klemaanduidingen bevinden zich op de behuizing
➢ De verbinding met de KNX vindt plaats via de bijgesloten busaansluitklem

❸ Inbedrijfname en bediening

➢ Stroomvoorziening aansluiten
➢ De inbedrijfstelling vindt plaats met de Engineering Tool Software (ETS)

Bediening

- On ⑧: LED brandt groen, wanneer de voedingsspanning beschikbaar en het apparaat bedrijfsgereed is
- Main Line ⑦: LED brandt geel, zodra de hoofdlijn is aangesloten, knippert bij telegramverkeer op de hoofdlijn
- Line ⑥: LED brandt geel, zodra de lijn is aangesloten, knippert bij telegramverkeer op de lijn
- Programme er-LED ③ brandt rood, wanneer het apparaat zich in de programmeermodus bevindt (nadat de programmeertoets ② is ingedrukt)

De ETS-database vindt u op **www.theben.de**.
Voor gedetailleerde beschrijvingen van de functies verwijzen wij naar het KNX-handboek.

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