

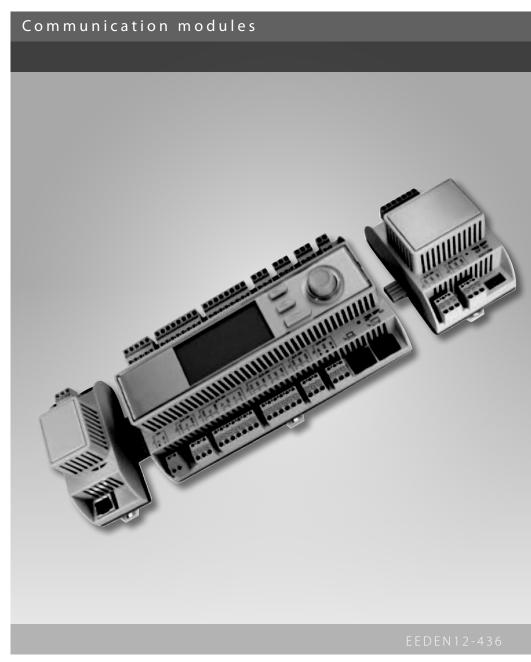
# Chillers Technical Data

Communication modules





## Chillers Technical Data



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### Modbus communication module EKCM200J

Communication module to connect a MicroTech controller to a Modbus network.

The EKCM200J communication module offers the following features:

- Integration into a building automation and control system via RS 485 Modbus RTU
- The module features 2 Modbus slave communication ports
- Galvanically isolated connection to the Modbus network
- The module must be connected to a controller

Installation concept	Communication	Controller	Extension
	System Integration		
Technical data			
General data	Dimensions Weight excl. packaging Base Housing Power supply	W x H x D: 45 x 110 x 75 mm 85 g Plastic, pigeon-blue RAL 501 Plastic, light-grey RAL 7035 Via system interface from cor	4 htroller
Modbus	RS-485 (EIA-485) Two Modbus interfaces Bus electronics Bus connection	DC 5 V (+5%/–5%), max. 140 T1 and T2 Galvanically isolated +, -, REF	) mA
	Bus cable	Shielded if length >3 m, twiste	ed pair

Installation

Example FKCT

Solid wire Stranded wire (twisted or with ferrule)

Bus termination (switch by software)

Baud rate

Equipped with plug

0.5...2.5 mm<sup>2</sup> 0.5...1.5 mm<sup>2</sup>

680  $\Omega$  / 120  $\Omega$  +1nF / 680  $\Omega$ 

2 Phoenix FKCT 2,5 /3-ST

2400, 4800, 9600, 19200 and 38400

#### System interface

Equipped with board-to-board plug

ZEC1,0/10-LPV-3,5 GY35AUC2CI1

Operation Temperature Humidity	IEC 721-3-3 -4070 °C
Humidity	
-	1000/
	<90% r.h.
Atmospheric pressure	Min. 700 hPa, corresponding to
	max. 3,000 m above sea level
Transport	IEC 721-3-2
Temperature	-4070 °C
Humidity	<95% r.h.
Atmospheric pressure	Min. 260 hPa, corresponding to
	max. 10,000 m above sea level
Degree of protection	IP20 (EN 60529)
Product safety	
•	EN 60730-1
	EN 80730-1
•	EN 60730-1 +A16
•	
	EN 60730-1 +A16
•	EN 61000-6-2
	EN 61000-6-3
,	0004/400/50
	2004/108/EC
-	2006/95/EC
Lisungs	UL916, UL873 CSA C22.2M205
PoHS directive	2002/95/EC (Europe)
	ACPEIP (China)
	2 slaves configured
, ,	2000 coils (per slave)
	2000 state (per slave)
	1000 holding (per slave)
U U	1000 input (per slave)
•	2000 active mappings total for both
2000 active mappings	slaves (max. 1000 on slave 1 and max.
	1000 on slave 2)
	,
Modbus module	EKCM200J
_	
Service pin button > O	BSP BUS LEDs for BSP and BUS diagnos- tics (green, red and yellow)
Mode	BUS LED status
	Green on
Hardware error	Yellow on Red on
Mode	BSP LED status
BSP running and communication	with controller Green on
BSP running but no communication	
BSP error (software error)	Red blinking at 2 Hz
Hardware error	Red on
BSP upgrade mode	BSP LED green, BUS LED alternating at 1 Hz between red and green
	Temperature Humidity Atmospheric pressure Degree of protection Product safety Automatic electrical controls Electromagnetic compatibility Immunity Emissions Immunity in the industrial sector Emissions in the domestic sector CE conformity EMC directive Low-voltage directive Listings RoHS directive Only one slave configured 2000 coils 2000 state 2000 holding 2000 active mappings Modbus module Service pin button > O Mode Hardware error Mode BSP running and communication BSP running but no communication

- The communication module is attached to the controller with a board-to-board connector
- The connection to the Modbus is made via the connector T1 and T2 ports

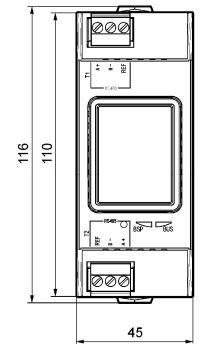
#### **Disposal notes**

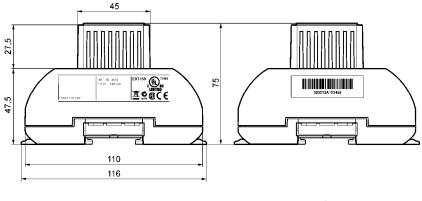


The module contains electrical and electronic components and must not be disposed of together with household waste.

Local and currently valid legislation must be observed!

Layout of EKCM200J communication module





Right side

Left side





## LON communication Module EKCMLON

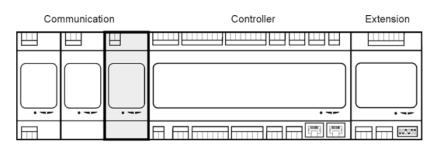
## Communication module to connect a MicroTech controller to a LON network.

The EKCMLON communication module offers the following features:

- Integration into a building automation and control system via LON network
- It includes a LON network controller (Neuron chip) which handles the complete LON network protocol and the user application
- Galvanically isolated connection to the LON network via the 78 kbaud TP/FT-10 transceiver
- User applications can be downloaded into the flash memory using standard LON tools
- Tooling via LON
- The module must be connected to the left side of a controller

## The LON protocolLonWorks is a networking platform specifically created to address the unique per-<br/>formance, reliability, installation, and maintenance needs of control applications.<br/>The platform is built on a protocol created by Echelon Corporation for networking<br/>devices via media such as twisted pair, powerlines, fiber optics, and RF. It is popu-<br/>lar for the automation of various functions within buildings such as lighting and<br/>HVAC.

## Installation concept



System Integration

#### **Technical data**

eneral data	Dimensions	W x H x D: 45 x 110 x 75 mm
	Weight excl. packaging	85 g
	Base	Plastic, pigeon-blue RAL 5014
	Housing	Plastic, light-grey RAL 7035
	Power supply	Via system interface from controller
		DC 5 V (+5% / –5%), max. 80 mA
DN	LON interfaces	Plug-in terminals
		Galvanically isolated
		2 wires, interchangeable
	LON data memory	56 kbyte flash memory for the user application
onnection terminals	Equipped with plug	1 Phoenix FKCT 2,5 /2-ST
Example FKCT	Solid wire	0.52.5 mm <sup>2</sup>
	Stranded wire (twisted or	with ferrule) 0.5…1.5 mm <sup>2</sup>
OMM interface plug	Board-to-board	ZEC1.0/10-LPV-3.5 GY35AUC2CI1
OMM interface plug	Board-to-board	ZEC1,0/10-LPV-3,5 G135AUC2CI1

Board-to-board connector

System interface	Equipped with board-to-board plug	ZEC1,0/4-LPV-3,5 GY35AUC2CI1
Environmental	Operation	IEC 721-3-3
conditions	Temperature	-4070 °C
	Humidity	<90% r.h.
	Atmospheric pressure	Min. 700 hPa, corresponding to
		max. 3,000 m above sea level
	Transport	IEC 721-3-2
	•	
	Temperature	-40+70 °C
	Humidity	<95% r.h.
	Atmospheric pressure	Min. 260 hPa, corresponding to
		max. 10,000 m above sea level
Protection	Degree of protection	IP20 (EN 60529)
Standards	Product safety	
	Automatic electrical controls	EN 60730-1
	Electromagnetic compatibility	
	Immunity	EN 60730-1 +A16
	Emissions	EN 60730-1 +A16
	CE conformity	
	EMC directive	2004/108/EC
	Low-voltage directive	2006/95/EC
	-	2000/93/20
	Listings	
		UL916, UL873
		CSA C22.2M205
	RoHS directive	
		2002/95/EC (Europe)
		ACPEIP (China)
Ordering data	LON module	EKCMLON
LON service pin and LEDs for diagnostics	Service pin button > used for O BSP	LEDs for BSP and BUS diagnos- BUS tics (green, red and yellow)
	Mode	BUS LED status
	Lon communication ok	Green on
	Initialization of LON communication	Yellow on
	Hardware error	Red on
	Mode	BSP LED status
	BSP running and communication with controller	Green on
	BSP running but no communication with controller	Yellow on
	BSP error (software error)	Red blinking at 2 Hz
	Hardware error	Red on
	BSP upgrade mode	Every second alternating between red
		and yellow

- The communication module is attached to the controller with a board-to-board connector
- The connection to the LON bus is made via the T1 port

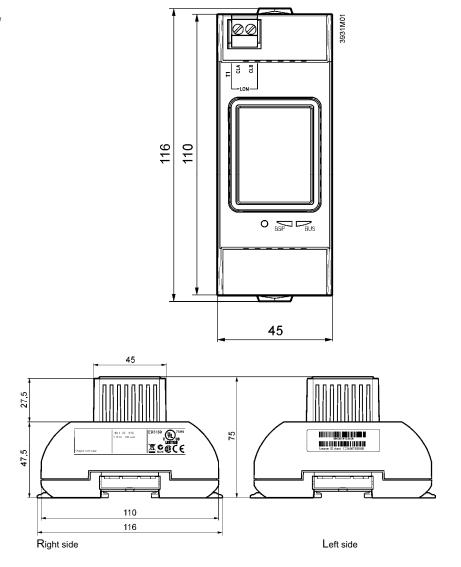
#### **Disposal notes**



The module contains electrical and electronic components and must not be disposed of together with household waste.

Local and currently valid legislation must be observed!

Layout of EKCMLON communication module



Subject to change





### BACnet IP communication module EKCMBACIP

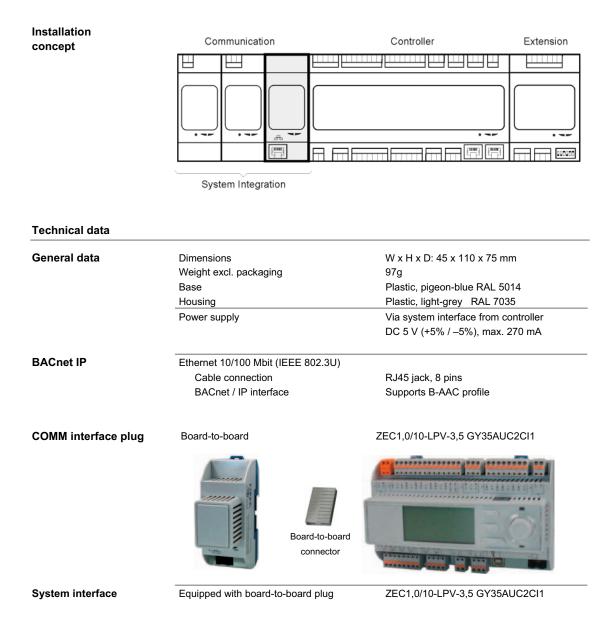
Communication module to connect a MicroTech controller to a BACnet IP network.

The EKCMBACIP communication module offers the following features:

- Integration into a building automation and control system via BACnet IP
  - Client communication to other BACnet devices
- Preloaded generic BACnet server
- Supports BACnet/IP (B-BC profile and BBMD)
- Network parameters configurable via controller, HMI or SCOPE
- The module must be connected to the left side of a controller

## The BACnet / IP protocol

BACnet protocol was designed specifically to meet the communication needs of building automation and control systems for applications such as heating, ventilation, and air conditioning control, lighting control, access control, and fire detection systems and their associated equipment. The BACnet protocol provides mechanisms by which computerized building automation devices can exchange information, regardless of the particular building service they perform. As a result, the BACnet protocol may be used by head-end workstations, general-purpose direct digital controllers, and application-specific or unitary controllers with equal effect.



Environmental	Operation	IEC 721-3-3
conditions	Temperature	-4070 °C
	Humidity	<90% r.h.
	Atmospheric pressure	Min. 700 hPa, corresponding to
		max. 3,000 m above sea level
	Transport	IEC 721-3-2
	Temperature	-4070 °C
	Humidity	<95% r.h.
	Atmospheric pressure	Min. 260 hPa, corresponding to
		max. 10,000 m above sea level
Protection	Degree of protection	IP20 (EN 60529)
Standards	Product safety	
	Automatic electrical controls	EN 60730-1
	Electromagnetic compatibility	
	Immunity	EN 60730-1 +A16
	Emissions	EN 60730-1 +A16
	CE conformity	2020///2027
	EMC directive	2004/108/EC
	Low-voltage directive	2006/95/EC
	Listings	
		UL916, UL873
		CSA C22.2M205
	RoHS directive	
		2002/95/EC (Europe)
		ACPEIP (China)
Ordering data	BACnet / IP module	EKCMBACIP
BACnet IP LEDs for diagnostics	BSP	LEDs for BSP and BUS diagnos- BUS tics (green, red and yellow)
	Mode	BUS LED status
	BACnet IP running and communication ok IP not running	Green on Yellow on
	Hardware error	Red on
	Mode	BSP LED status
	BSP running and communication with controller	Green on
	BSP running but no communication with controller	Yellow on
	BSP error (software error)	Red blinking at 2 Hz
	Hardware error	Red on
	BSP upgrade mode	Every second alternating between red

- The communication module is attached to the controller with a board-to-board connector
- The connection to Ethernet is made via T-IP port (RJ45 jack)

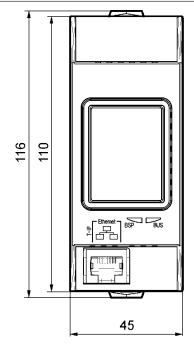
#### Disposal

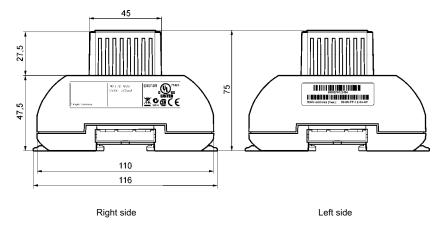


The module contains electrical and electronic components and must not be disposed of together with household waste.

Local and currently valid legislation must be observed!

## Layout of EKCMBACIP communication module





Subject to change





### BACnet MS/TP communication module EKCMBACMSTP

Communication module to connect a MicroTech controller to a BACnet MS/TP network.

The EKCMBACMSTP communication module offers the following features:

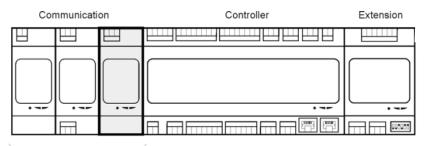
- Integration into a building automation and control system via BACnet MS/TP
- The module must be connected to a controller
- Supports BACnet MS/TP (B-BC profile) with different Baud rates
- Network parameters configurable via controller, HMI or SCOPE
- Preloaded generic BACnet server

## The BACnet MS/TPBACnet protocol was designed specifically to meet the communication needs of<br/>building automation and control systems for applications such as heating,<br/>ventilation, and air conditioning control, lighting control, access control, and fire<br/>detection systems and their associated equipment.<br/>The BACnet protocol provides mechanisms by which computerized building<br/>automation devices can exchange information, regardless of the particular building

automation devices can exchange information, regardless of the particular building service they perform. As a result, the BACnet protocol may be used by head-end workstations, general-purpose direct digital controllers, and application-specific or unitary controllers with equal effect.

MS/TP (Master-Slave/Token-Passing) is also unique to BACnet and is implemented using the EIA-485 signaling standard. This is a shielded twisted-pair (STP) LAN operating at speeds from 9.6 kbit/s up to 76.8 kbit/s. This LAN type is low cost and particularly suitable for unitary controller communications.

## Installation concept



System Integration

#### **Technical data** General data Dimensions W x H x D: 45 x 110 x 75 mm Weight excl. packaging 98g Base Plastic, pigeon-blue RAL 5014 Housing Plastic, light-grey RAL 7035 Power supply Via bus connector DC 5 V (+5% / -5%), max. 270 mA **BACnet MS/TP** RS-485 (EIA-485) Bus connection / electronics Galvanically isolated A+, B-, REF (3 wires) Bus connection 680 $\Omega$ / 120 $\Omega$ +1 nF / 680 $\Omega$ Bus termination (switch by software) **Connection terminals** Equipped with plug Phoenix FKCT 2,5 /3-ST 0.5...2.5 mm<sup>2</sup> Solid wire Stranded wire (twisted or with ferrule) 0.5...1.5 mm<sup>2</sup> Example FKCT **COMM** interface plug Board-to-board ZEC1,0/10-LPV-3,5 GY35AUC2CI1 Board-to-board

connector

Cable types         RS-485 interface         3-wire twisted pair, shielded           Environmental conditions         Operation Temperature Humidity         4070 °C 4070 °C Humidity         4070 °C	System interface	Equipped with board-to-board plug	ZEC1,0/10-LPV-3,5 GY35AUC2CI1
conditions     Temperature     4070 °C       Humidity     490% r.h.       Attrospheric pressure     Min. 700 hPa, corresponding to max. 3,000 m above sea level       Transport     IEC 721-3-2       Temperature     4070 °C       Humidity     45% r.h.       Atmospheric pressure     Min. 260 hPa, corresponding to max. 10,000 m above sea level       Protection     Degree of protection     IP20 (EN 60529)       Standards     Product safety Automatic electrical controls     EN 60730-1       Electromagnetic compatibility Immunity     EN 60730-1       Electromagnetic compatibility Immunity     EN 60730-1 + A16       CE conformity     EM 00730-1 + A16       Materia     EM 00730-1	Cable types	RS-485 interface	3-wire twisted pair, shielded
conditions     Temperature     -070 °C       Humidity     -90% r.h.       Atmospheric pressure     Min. 700 hPa, corresponding to       max. 3,000 m above sea level     Transport       Temperature     -4070 °C       Humidity     -90% r.h.       Min. 700 hPa, corresponding to     max. 3,000 m above sea level       Temperature     -4070 °C       Humidity     <95% r.h.	Environmental	Operation	IEC 721-3-3
Humidity     <90% r.h.	conditions	-	-4070 °C
Atmospheric pressure     Min. 700 hPa, corresponding to max. 3,000 m above sea level       Transport     IEC 721-3-2       Temperature     -40,70 °C       Humidity     95% r.h.       Atmospheric pressure     Min. 280 hPa, corresponding to max. 10,000 m above sea level       Protection     Degree of protection       IP20 (EN 60529)       Standards     Product safety Automatic electrical controls       Electromagnetic compatibility Immunity     EN 60730-1       Electromagnetic compatibility Immunity     EN 60730-1 +A16       CE conformity     2004/108/EC       Low-voltage directive     2004/108/EC       Low-voltage directive     2002/95/EC       Listings     UL916, UL873       CSA C22.2M205       RoHS directive     2002/95/EC (Europe) ACPEIP (China)       Ordering data     BACnet MS/TP module       ELDs for diagnostics     ENS for diagnostics       MSTP LEDs for diagnostics     EDS for disgnostics       Mode     BSP LED status       BACnet MS/TP running and communication ok     Green on ok       MS7P not running     Yellow on Hardware error       BSP running but no communication with controller     BSP LED status       BSP running but no communication with controller     Green on controller       BSP Prof (software error)     Red on BSP LED status		-	<90% r.h.
Transport     Image: Transport			Min. 700 hPa. corresponding to
Transport       IEC 721-3-2         Temperature       -4070 °C         Humidity       >45% r.h.         Atmospheric pressure       Min. 260 hPa, corresponding to max. 10,000 m above sea level         Protection       Degree of protection       IP20 (EN 60529)         Standards       Product safety       Automatic electrical controls       EN 60730-1         Electromagnetic compatibility       Immunity       EN 60730-1       Electromagnetic compatibility         Immunity       EN 60730-1 +A16       Em 60730-1 +A16         Cc conformity       EN 60730-1 +A16       Em 60730-1 +A16         CE conformity       EN 60730-1 +A16       Em 60730-1 +A16         Marchysic Antiper Constructs       EN 60730-1 +A16       Em 60730-1 +A16         Def Sel Cent Controller <t< td=""><td></td><td></td><td></td></t<>			
Temperature     4070 °C       Humidity     495% r.h.       Atmospheric pressure     Min. 260 hPa, corresponding to max. 10,000 m above sea level       Protection     Degree of protection       IP20 (EN 60529)       Standards     Product safety Automatic electrical controls       Electromagnetic compatibility Immunity     EN 60730-1       Electromagnetic compatibility Immunity     EN 60730-1 +A16       CE conformity     EN 60730-1 +A16       CE conformity     2004/108/EC       Low-voltage directive     2006/95/EC       Listings     UL916, UL873       CSA C22.2M205     RoHS directive       2002/95/EC (Europe) ACPEIP (China)     CSA C22.2M205       RoHS directive     2002/95/EC (Europe) ACPEIP (China)       Ordering data     BACnet MS/TP module     EKCMBACMSTP       MSTP LEDs for diagnostics     ENS for BSP and BUS diagnos tics (green, red and yellow)       BACnet MS/TP running and communication ok     Green on MSTTP not running     Green on MSTTP not running       BACnet MS/TP rot running and communication orticoller     BSP LED status     BSP upper non BSP prunning but no communication with controller       BSP uppide mode     BSP LED status     BSP uppide mode     BSP LED status		Transport	
Hundity     <95% r.h.		•	-40 70 °C
Atmospheric pressure     Min. 260 hPa, corresponding to max. 10,000 m above sea level       Protection     Degree of protection     IP20 (EN 60529)       Standards     Product safety Automatic electrical controls     EN 60730-1       Electromagnetic compatibility Immunity     EN 60730-1 +A16       Emissions     EN 60730-1 +A16       CE conformity     EMC directive       EMC directive     2004/108/EC       Low-voltage directive     2006/95/EC       Listings     UL916, UL873       CSA C22.2M205     RoHS directive       2002/95/EC (Europe) ACPEIP (China)     EDS for BSP and BUS diagnostics       MSTP LEDs for diagnostics     EACnet MS/TP module     EKCMBACMSTP       MSTP LEDs for diagnostics     ESP FUNDing and communication of MS/TP not running     Yellow on Hardware error       Red on Hardware error     Red on BSP running and communication with controller     Green on Mode       BSP Error (software error)     Red blinking at 2 Hz Hardware error     Red on BSP error (software error)       BSP error (software error)     Red blinking at 2 Hz Hardware error     Red on Ever yes cond alternating between red		-	
max. 10,000 m above sea level         Protection       Degree of protection       IP20 (EN 60529)         Standards       Product safety Automatic electrical controls       EN 60730-1         Electromagnetic compatibility Immunity       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         CE conformity       2004/108/EC         Low-voltage directive       2006/95/EC         Listings       UL916, UL873         CSA C22.2M205       RoHS directive         2002/95/EC (Europe) ACPEIP (China)       ACPEIP (China)         Ordering data       BACnet MS/TP module       EKCMBACMSTP         MSTP LEDs for diagnostics       EDS for BSP and BUS diagnostics (green, red and yellow)         MGE       BJCnet MS/TP running and communication ok       Green on         ok       MSTP not running       Yellow on         Hardware error       Red on       BSP LED status         BSP running and communication with controller       Green on       Mode         BSP running but no communication with controller       Green on       Controller         BSP prof (software error)       Red blinking at 2 Hz       Hardware error         BSP perced mode       Every second atternating between red			
Standards       Product safety Automatic electrical controls       EN 60730-1         Electromagnetic compatibility Immunity       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         CE conformity       EN 60730-1 +A16         CM Example       2004/108/EC         Low-voltage directive       2006/95/EC         Listings       UL916, UL873         CSA C22.2M205       RoHS directive         2002/95/EC (Europe)       ACPEIP (China)         Ordering data       BACnet MS/TP module       EKCMBACMSTP         MSTP       LEDs for BSP and BUS diagnos       tics (green, red and yellow)         Mode       BACnet MS/TP running and communication of creen on ok       Green on         MS/TP not running       Yellow on       Hardware error         Red on       BSP running but no communication with controller       Green on         BSP running but no communication with controller       SP upgrade mode       Yellow on			
Standards       Product safety Automatic electrical controls       EN 60730-1         Electromagnetic compatibility Immunity       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         CE conformity       EN 60730-1 +A16         CM Example       2004/108/EC         Low-voltage directive       2006/95/EC         Listings       UL916, UL873         CSA C22.2M205       RoHS directive         2002/95/EC (Europe)       ACPEIP (China)         Ordering data       BACnet MS/TP module       EKCMBACMSTP         MSTP       LEDs for BSP and BUS diagnos       tics (green, red and yellow)         Mode       BACnet MS/TP running and communication of creen on ok       Green on         MS/TP not running       Yellow on       Hardware error         Red on       BSP running but no communication with controller       Green on         BSP running but no communication with controller       SP upgrade mode       Yellow on	Protection	Degree of protection	IP20 (EN 60529)
Automatic electrical controls EN 60730-1 Electromagnetic compatibility Immunity EN 60730-1 +A16 Emissions EN 60730-1 +A16 Emissions EN 60730-1 +A16 CE conformity EMC directive 2004/108/EC Low-voltage directive 2006/95/EC Listings UL916, UL873 CSA C22.2M205 RoHS directive 2002/95/EC (Europe) ACPEIP (China) Ordering data BACnet MS/TP module EKCMBACMSTP MSTP LEDs for diagnostics Mode BACnet MS/TP running and communication ok Mode BUS LED status BACnet MS/TP not running Yellow on Hardware error Red on Mode BSP LED status BSP Funning and communication with controller Communication with Yellow on Hardware error Red on BSP error (software error) Red on BSP error (software error) Red on BSP upgrade mode Every second alternating between red		203.00 0. p.0.00.01	
Automatic electrical controls       EN 60730-1         Electromagnetic compatibility       Immunity       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         CE conformity       EN 60730-1 +A16         EMC directive       2004/108/EC         Low-voltage directive       2006/95/EC         Listings       UL916, UL873         CSA C22.2M205       RoHS directive         RoHS directive       2002/95/EC (Europe)         ACPEIP (China)       ACPEIP (China)         Ordering data       BACnet MS/TP module       EKCMBACMSTP         MSTP       LEDs for BSP and BUS diagnos         MSTP       BACnet MS/TP running and communication of creen on ok       Green on ok         MS/TP not running       Yellow on       Hardware error         Hardware error       Red on       BSP running and communication with controller         BSP running ut no communication with controller       Green on ok       Green on         BSP running ut no communication with controller       Green on       BSP running and communication with controller         BSP running but no communication with controller       Green on       BSP running and communication with controller         BSP upgrade mode       ESP ercor (software error)       Red on       BSP upgrade mode	Standards	Product safety	
Electromagnetic compatibility Immunity       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         CE conformity       EMC directive         EMC directive       2004/108/EC         Low-voltage directive       2006/95/EC         Listings       UL916, UL873 CSA C22.2M205         RoHS directive       2002/95/EC (Europe) ACPEIP (China)         Ordering data       BACnet MS/TP module         BSTP LEDs for diagnostics       EKCMBACMSTP         MSTP LEDs for diagnostics       ELDs for BSP and BUS diagnos tics (green, red and yellow)         Mode       BUS LED status         BACnet MS/TP not running       Yellow on Hardware error         NSTP Instruming and communication ok       Green on OK         Mode       BSP LED status         BACnet MS/TP not running       Yellow on Hardware error         BSP running and communication with controller       Green on OK         BSP running but no communication with controller       Green on OK         BSP running but no communication with controller       Green on OK         BSP error (software error)       Red on BSP upgrade mode		-	EN 60730-1
Immunity       EN 60730-1 +A16         Emissions       EN 60730-1 +A16         CE conformity       2004/108/EC         Low-voltage directive       2006/95/EC         Listings       UL916, UL873         CSA C22.2M205       RoHS directive         2002/95/EC (Europe)       ACPEIP (China)         Ordering data       BACnet MS/TP module       EKCMBACMSTP         MSTP       LEDs for diagnostics       LEDs for BSP and BUS diagnost tics (green, red and yellow)         Mode       BUS LED status       BACnet MS/TP running and communication         MSTP not running       Yellow on         Hardware error       Red on         Mode       BSP LED status         BSP running and communication with controller       Green on         BSP running and communication with controller       Green on         BSP running and communication with controller       Green on         BSP running but no communication with controller       Green on         BSP running but no communication with controller       Feen on         BSP error (software error)       Red on         BSP upgrade mode       Every second alternating between red			
Emissions EN 60730-1 +A16 CE conformity EMC directive 2004/108/EC Low-voltage directive 2006/95/EC Listings UL916, UL873 CSA C22.2M205 RoHS directive 2002/95/EC (Europe) ACPEIP (China) Ordering data BACnet MS/TP module EKCMBACMSTP MSTP LEDs for diagnostics MSTP LEDs for diagnostics Mode BUS LED status BACnet MS/TP running and communication ok MS/TP not running Yellow on Hardware error Red on Mode BSP running but no communication with controller BSP running but no communication with controller BSP running but no communication with controller BSP upgrade mode Every second alternating between red			EN 60730-1 +A16
CE conformity EMC directive 2004/108/EC Low-voltage directive 2006/95/EC Listings UL916, UL873 CSA C22.2M205 RoHS directive 2002/95/EC (Europe) ACPEIP (China) Ordering data BACnet MS/TP module EKCMBACMSTP MSTP LEDs for diagnostics LEDs for BSP and BUS diagnos tics (green, red and yellow) Mode BUS LED status BACnet MS/TP running and communication ok MS/TP not running Yellow on Hardware error Red on MS/TP not running Yellow on Hardware error Red on BSP running and communication with controller BSP running but no communication with controller BSP upgrade mode		-	
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LEDs for diagnostics       BSP       LEDs for BSP and BUS diagnostics (green, red and yellow)         Mode       BUS LED status       BACnet MS/TP running and communication ok         MS/TP not running       Yellow on         Hardware error       Red on         Mode       BSP LED status         BSP running and communication with controller       Green on         BSP error (software error)       Red blinking at 2 Hz         Hardware error       Red on         BSP error (software error)       Red on         BSP upgrade mode       Every second alternating between red	Ordering data	BACnet MS/TP module	EKCMBACMSTP
BSP     BUS     tics (green, red and yellow)       Mode     BUS LED status       BACnet MS/TP running and communication ok     Green on       MS/TP not running     Yellow on       Hardware error     Red on       Mode     BSP LED status       BSP running and communication with controller     Green on       BSP running but no communication with controller     Green on       BSP error (software error)     Red blinking at 2 Hz       Hardware error     Red on       BSP upgrade mode     Every second alternating between red			LEDs for BSP and BUS diagnos-
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Hardware error         Red on           BSP upgrade mode         Every second alternating between red		BSP running but no communication with controller	Yellow on
BSP upgrade mode Every second alternating between red			•
		BSP upgrade mode	Every second alternating between red

- The communication module is attached to the controller with a board-to-board connector
- The connection to the MSTP network is made via theT1 port

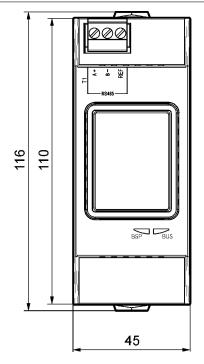
#### **Disposal notes**

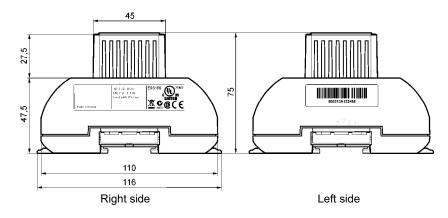


The module contains electrical and electronic components and must not be disposed of together with household waste.

Local and currently valid legislation must be observed!

## Layout of EKCMBACNSTP communication module





Subject to change



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.





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