smartmicro
SMART MICROWAVE SENSORS

PRODUCT INFORMATION

TRAFFIC MANAGEMENT ACCESSORY

Cables

s.m.s, smart microwave sensors GmbH

In den Waashainen 1

38108 Braunschweig

Germany

Phone: +49 531 39023-0

Fax: +49 531 39023-599

info@smartmicro.de

www.smartmicro.com

CONTENT

1 USER SAFETY WARNING

Please read the entire document carefully before using the device.

INSTALLATION

Please pay attention to the details below before installing and connecting the device:

- Only use provided or approved equipment for the operation.
- Only skilled and instructed persons shall install and connect the device.
- All connectors are pin-coded and fit in only one position.
- Be cautious when using the device on or around active roadways and pay attention to moving traffic.
- Make sure that test procedures are in accordance with local safety policies and procedures as well as company practices.

OPERATION

Please note that the device is not waterproof. Take care of proper rain coverage when working outside. Do not operate the device if the device itself or any cables are damaged.

Do not dispose waste electrical and electronic equipment in household trash.

TECHNICAL SERVICE

Only use provided or approved equipment for operation.

Do not attempt to service or repair this device:

- No user-maintainable parts are contained in the device.
- To avoid electrical shock, do not remove or open the cover.
- Unauthorized opening will void all warranties.
- smartmicro is not liable for any damages or harms caused by unauthorized attempts to open or repair the device.
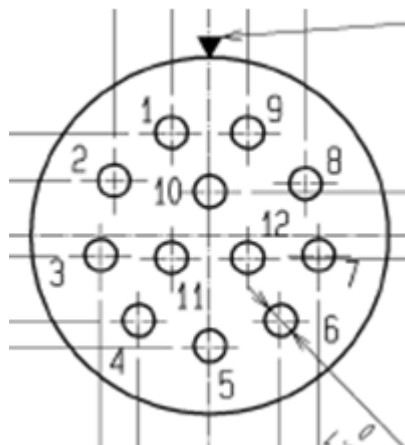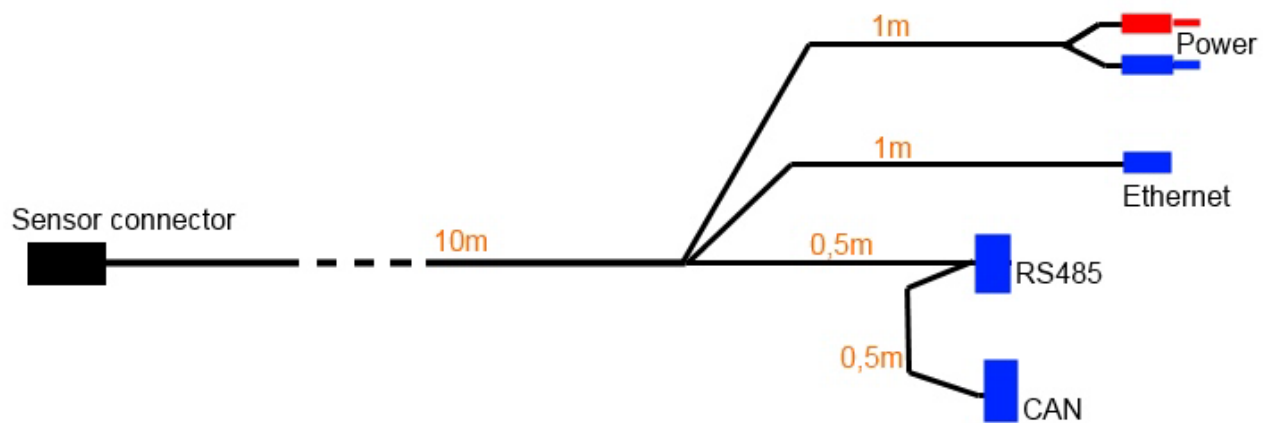
2   PLUG & PLAY CABLES

2.1   CABLE-0C0200

2.1.1   LABEL

Active Plattform	Active Hardware	Active Modification	Active Revision
CABLE	0C	02	00

2.1.2   SENSOR CONNECTOR + RS485 + CAN + ETHERNET + POWER

HRS LF10WBP-12S (rear view)

2.1.3 LAYOUT[1]

	Pin Layout LF10	Color	Label	DSUB-9-f CAN	DSUB-9-f RS485	LAN	Banana
Pair1	1	grey/red	Copro_Tx1_P			1	
Pair1	2	red/blue	Copro_Tx1_N			2	
Pair2	3	pink	Sensor RS485 RX L	1	120 Ω		
Pair2	4	gray	Sensor RS485 RX H	2			
Pair3	5	brown	Sensor RS485 TX L	4	120 Ω		
Pair3	6	white	Sensor RS485 TX H	3			
Pair4	7	blue	GND	3			black (blue)
Pair4	8	red	V-Supply				red (brown)
Pair5	9	black	Copro_Tx2_N			6	
Pair5	10	violet	Copro_Tx2_P			3	
Pair6	11	green	CAN_H	7	120 Ω		
Pair6	12	yellow	CAN_L	2			

2.1.4 RS485 COMPATIBILITY

- RS485USB-00xxyy (Lindy)   Half Duplex
- RS485LAN-00xxyy (Moxa)   Full Duplex

[1] The resistance between pin 7 and 8 is approximately 1,6 Ω, so that we recommend a voltage source higher than 10V for TRUGRD sensors.

2.1.5   TECHNICAL DATA

2.1.5.1   CABLE

Cable type	H03VVH2-F; 2-Adrig; oval; grau; 1,0m (Power)
Supplier	RS Online; Order Nr.: 491-825

Cable type	Network cable (LAN, RS485, CAN)
Supplier	Reichelt; PATCH-DW5E 2 GR

Cable type	KU110C12J002, SCRN, Highly flexible PVC control cable, shielded, twisted pair, 6 PAIR (Type UL/cUL-LIH 5 x (2xAWG26 ST) + 2xAWG24 C11Y), black; 10m
Supplier	Medikabel

2.1.5.2   CONNECTOR

Type	D-Sub 9 fem. (CAN)
Body	FKH1 von FCT

Type	D-Sub 9 fem. (RS485)
Body	FKH1 von FCT

Type	HIROSE LF10WBP-12S (Sensor connector), waterproof, locking mechanism, Plug, 12 contacts, female

2.1.5.3   CABLE LENGTH

Total length	approx. 10m
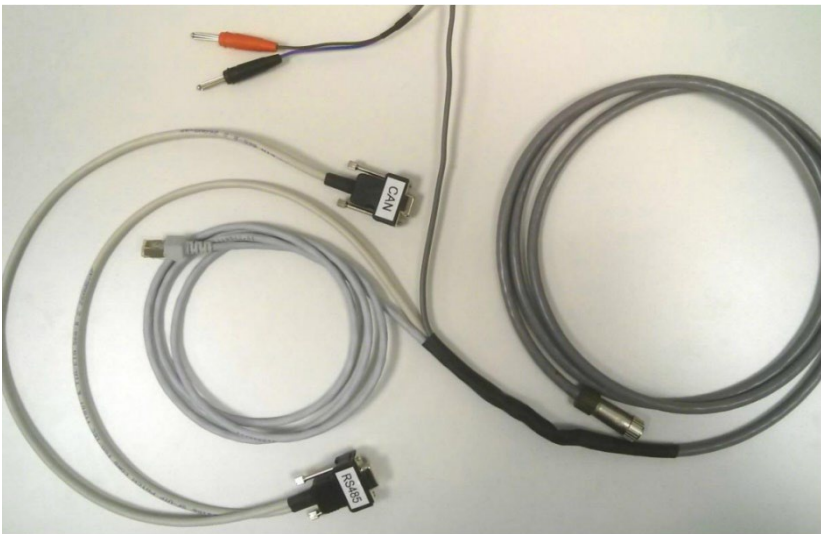
3   OPEN WIRE CABLES

3.1   CABLE-0C0304

3.1.1   LABEL

Active Plattform	Active Hardware	Active Modification	Active Revision
CABLE	0C	03	04

3.1.2   SENSOR CONECTOR
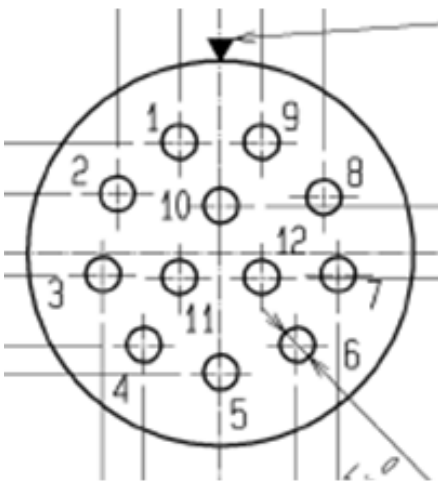
Sensor connector HRS LF10WBP-12S (rear view)

3.1.3 LAYOUT

Pin Layout LF10t	Bezeichnung	Color
1	-	Grey /Rosa
2	-	Red / blue
3	-	Rosa
4	-	Grey
5	-	Braun
6	-	White
7	-	Blue
8	-	Red
9	-	Black
10	-	Lila
11	-	Green
12	-	Yellow
13	shield	

3.1.4 RS485 COMPATIBILITY

RS485USB-00xxyy (Lindy)   Half Duplex
RS485LAN-00xxyy (Moxa)   Full Duplex

3.1.5 TECHNICAL DATA

3.1.5.1 CABLE

Cable type   KU110C12J002, SCRN, Highly flexible PVC control cable, shielded, twisted pair, 6 PAIR (Type UL/cUL-LIH 5 x (2xAWG26 ST) + 2xAWG24 C11Y), black; 10m

Supplier   Medikabel

Outer diameter   6,50 ±0,25mm

3.1.5.2 CONNECTOR

Type   HIROSE LF10WBP-12S (Sensor connector), waterproof, locking mechanism, Plug, 12 contacts, female

3.1.5.3 CABLE LENGTH

Total length   approx. 10m

Open end   peeled off outer insulation approx. 10.0cm

Wires   stripped and tinned approx. 3.0mm

4   LEGAL DISCLAIMER NOTICE

All products, product specifications and data in this document may be subject to change without notice to improve reliability, function or otherwise.

Not all products and/or product features may be available in all countries and regions. For legal reasons features may be deleted from products or smartmicro may refuse to offer products. Statements, technical information and recommendations contained herein are believed to be accurate as of the stated date. smartmicro disclaims any and all liability for any errors, inaccuracies or incompleteness contained in this document or in any other disclosure relating to the product.

To the extent permitted by applicable law, smartmicro disclaims (i) any and all liability arising out of the application or use of the product or the data contained herein, (ii) any and all liability of damages exceeding direct damages, including - without limitation - indirect, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of the suitability of the product for particular purposes.

Statements regarding the suitability of products for certain types of applications are based on smartmicro's knowledge of typical requirements that are often placed on smartmicro products in generic/general applications. Statements about the suitability of products for a particular/specific application, however, are not binding. It is the customer's/user's responsibility to validate that the product with the specifications described is suitable for use in the particular/specific application. Parameters and the performance of products may deviate from statements made herein due to particular/specific applications and/or surroundings. Therefore, it is important that the customer/user has thoroughly tested the products and has understood the performance and limitations of the products before installing them for final applications or before their commercialization. Although products are well optimized to be used for the intended applications stated, it must also be understood by the customer/user that the detection probability may not be 100% and that the false alarm rate may not be zero.

The information provided, relates only to the specifically designated product and may not be applicable when the product is used in combination with other materials or in any process not defined herein. All operating parameters, including typical parameters, must be validated for each application by the customer's/user's technical experts. Customers using or selling smartmicro products for use in an application which is not expressly indicated do so at their own risk.

This document does not expand or otherwise modify smartmicro's terms and conditions of purchase, including but not being limited to the warranty. Except as expressly indicated in writing by smartmicro, the products are not designed for use in medical, life-saving or life-sustaining applications or for any other application in which the failure of the product could result in personal injury or death.

No license, expressed or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of smartmicro. Product names and markings noted herein may be trademarks of their respective owners.

Please note that the application of the product may be subject to standards or other regulations that may vary from country to country. smartmicro does not guarantee that the use of products in the applications described herein will comply with such regulations in any country. It is the customer's/user's responsibility to ensure that the use and incorporation of products comply with regulatory requirements of their markets.

If any provision of this disclaimer is, or is found to be, void or unenforceable under applicable law, it will not affect the validity or enforceability of the other provisions of this disclaimer.