

iCall 382-1 LB-RFID-OA

This unit is a call/assistance button, including RFID reader for identified nurse presence/call cancellation. This RFID reader button is connected to the local bus using the flexible 4 wire connection. The RFID reader is programmed as one address on the bus, which can contain up to a maximum of 50 addresses. Finders and reassurance LED and buzzer included.



General system description

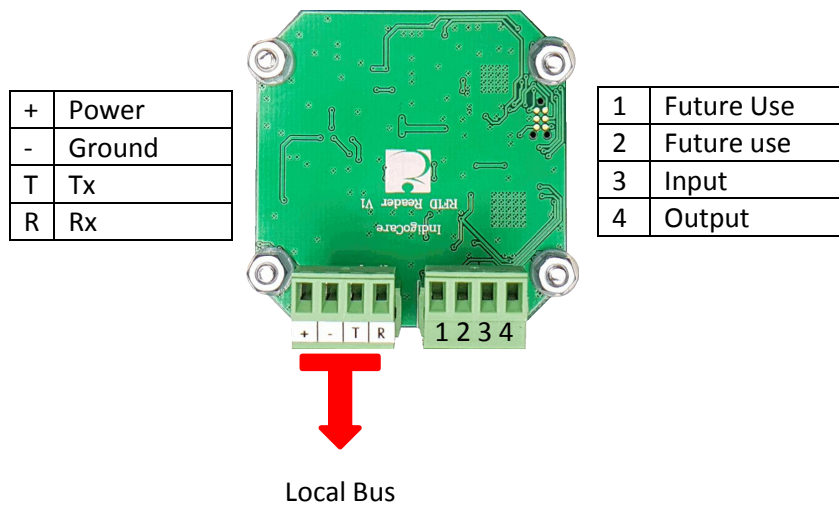
The local bus is a four wire bus that can be connected to any cable structure. Bus topology, star topology or a combination of both can be used. The maximum total cable length between the IP-units and the furthest LB-units on the bus is 1000m or the lowest voltage at the LB-units Tx or Rx wire is 18V DC. The four wire bus is composed of one wire conducting 24V DC, one wire serving as GND, one wire serving as Rx and one wire serving as Tx. The IP-unit can support up to 50 LB-units per bus. If there are more than 50 LB-units an additional IP unit is needed and another bus needs to be created.

The RFID radio operates at a frequency of 13.56MHz and is compatible with Mifare and NFC protocol. The local bus is a monitored bus which, when unable to find a registered button, displays an error message on the central Nurse station and Netrix server.

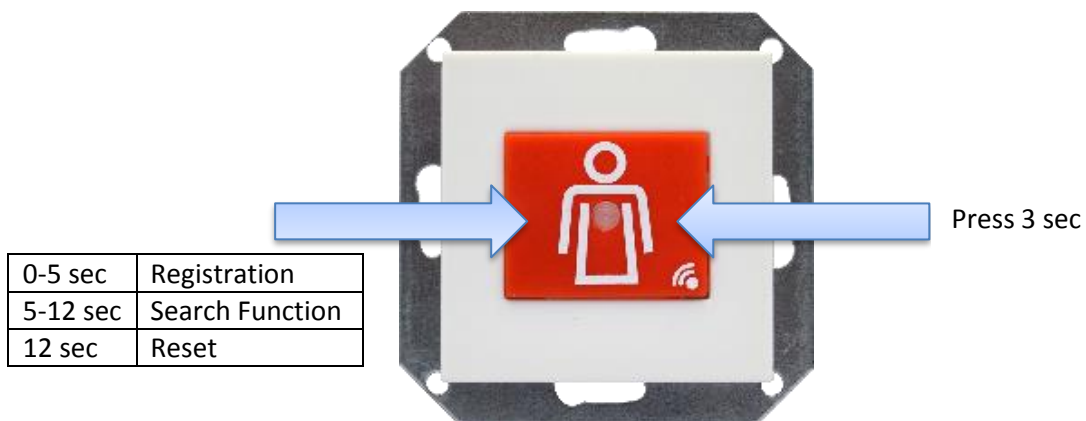
Features

- Finders LED
- One input for message to the Netrix
- Call reassurance LED (Red)
- 1 address on the iCall Local Bus.
- Button function can be "Call" or "Disabled"
- Presence confirmation LED (Green)
- Identified call/presence/assistance cancellation by using a (standard) RFID card
- Card reader confirmation audio (beep)
- RFID radio frequency 13,56MHz
- Supported protocols:
 - ISO/IEC 14443A (MIFARE)
 - ISO/IEC 14443B
 - ISO/IEC 18092, JIS: X6319-4 (FeliCa RC-S860)
 - ISO/IEC 21481 (NFCIP-2)
 - ECMA-340 (NFCIP-1)

Connections



Registration



1. Press the right side of the red call button for 3 seconds
2. The red LED lights up
3. You now have 2 seconds to press left on the red call button for the following functions:
 - 0-5s: register the button on the bus
 - 5-12s: search function for recovering an unknown registration
 - 12s: reset button software (local bus registration is retained)
4. If the left button is not pressed within 2 seconds, the function of the button will be activated (eg call)

Order information

NWBAES2900

iCall 382-1 LB-RFID-OA (RED)

Indigo Care

Version HW: iCall_LB-reader V1.0
SW: TC-b V1.0



iCall_382_x RFID xx

General Absolute Maximum Ratings !

		min	typ	max	unit
Supply Voltage	Vcc	18	24	30	V
Supply Current forward	I _f	-	-	-	mA
Operating Temperature (ambient)	T _{amb}	0	-	65	°C
Maximum reverse voltage	V _r	-	40	-	V
Leackage current (reverse @ 30Vdc)	I _r	-	30	-	µA

Mechanical properties

Group	Symbol	Parameter	min	typ	max	unit	
Physical	Dimensions (Total Assembly)	L x W x H	metric	71 x 71 x 31	-	mm	
		L x W x H	non-metric	27,95" x 27,95" x 12,20"	-	" (inch)	
		L x W x H	non-metric	2795 x 2795 x 1220	-	mils	
	Weight	Base PCB	pounds	-	0,0265	-	lbs
			metric	-	0,0120	-	kg
		Antenna + front plastic	pounds	-	0,0375	-	lbs
metric			-	0,0170	-	kg	
Total Assembly	pounds	-	0,1356	-	lbs		
	metric	-	0,0615	-	kg		
Material	plastics	lens	Type of material	TARFLON AZ1900T.pdf			
		cover	Type of material	Polylac 765 A.pdf			
		center (button)					
	PCB	Type of material	FR-4, Td>=325°C, T260>=60', T288>=5', CTEz<=3.7%, Tg>=135°C				

Thermal properties

Group	Symbol	Parameter	refers to	min	typ	max	unit
Thermal	T _{amb}	Operating temperature	ambient	0	25	65	°C
				32	77	149	°F
	-	flamability rating	plastic		V0		-

Functional properties

Group	Type	condition	function	configure
iCall 382_1 RFID OA (red) & iCall 382_2 RFIDA (green)	RFID Present	Push button (center front)	Off / Doorbel / Call	website
		Input (rear)	Off / Doorbel / General purpose	website
		Output (rear)	Doorcontact driver	not
		Buzzer	RFID feedback (On / Off)	website
iCall 382_2 RFIDA (green) & iCall 382_4 RFID B (white)	RFID AccessControl	LED (center front)	Finders LED (Red) & RFID feedback (Red/Green)	not
		Push button (center front)	Off / Doorbel / Call	website
		Input (rear)	Off / Doorbel / General purpose	website
		Output (rear)	Doorcontact driver	not
		Buzzer	RFID feedback (On / Off)	website
		LED (center front)	Lifecheck (Blue) & RFID feedback (Red/Green)	not

Radio properties

Group	Tag Type	Tag Dimensions	min	typ	max	unit
Reading distance	ID-1	86 x 54 [mm x mm]	10	-	33	mm
	ID-000	25 x 15 [mm x mm]	10	-	26	mm
	ID-2	105 x 74 [mm x mm]	10	-	33	mm
	ID-XXX	42 x 18 [mm x mm]	10	-	26	mm
Magnetic field strength	@3cm distance from antenna		1,5	-	2,5	A/m
Radio frequency			-	13,56	-	MHz
Antenna inductance	@13,56MHz		-	350,14	-	nH

RFID Standards

supported NFC Protocols	Brand name	possible types
ISO/IEC 14443A	MIFARE	<ul style="list-style-type: none"> MIFARE Classic 1K MIFARE Classic 4K MIFARE Classic EV1 1K MIFARE Classic EV1 4k MIFARE DESFire MIFARE Ultralight C
ISO/IEC 14443B	-	TBD
ISO/IEC 18092, JIS: X6319-4	FeliCa (RC-S860)	FeliCa Lite-S ;
ISO/IEC 21481	(NFCIP-2)	TBD
ECMA-340	(NFCIP-1)	TBD
Compatible active NFC devices	Supported NFC chipset	possible types
Smartphone	NXP	e.g. Samsung: • J510FN • SM-G388F • ...
	S.LSI	e.g. Samsung: • A310F • A510F • A710F • J710FN • G920F/G925F • G930F/G935F • ...

Electrical properties								
Symbol	Parameter	Type	State	typ @18V	typ @24V	typ @30V	unit	
I _f	Forward Supply Current (RFID Present)	iCall 382_1 RFID OA (red) & iCall 382_2 RFID A (green)	Without Antenna	13,7	10,8	9,2	mA	
			Standby / Idle	28,5	22,2	18,5		
				Call	29,3	22,8	19,0	mA
				Present	31,5	24,4	20,3	
I _f	Forward Supply Current (RFID AccessControl)	iCall 382_2 RFID A (green) & iCall 382_4 RFID B (white)	Without antenna	13,7	10,8	9,2	mA	
			Standby / Idle	24,4	21,9	18,4		
				Continuous batching	30,1	24,3	20,3	mA
P _t	Power Consumption (RFID Present)	iCall 382_1 RFID OA (red) & iCall 382_2 RFID A (green)	Without Antenna	246	260	276	mW	
			Standby / Idle	513	532	554		
				Call	528	546	569	mW
				Present	568	585	608	
P _t	Power Consumption (RFID AccessControl)	iCall 382_2 RFID A (green) & iCall 382_4 RFID B (white)	Without antenna	246	260	276	mW	
			Standby / Idle	440	526	553		
				Continuous batching	542	582	608	mW
Dynamical behaviour			State	typ @18V	typ @24V	typ @30V	unit	
I _{f pk}	Forward Peak Supply Current (RFID Present)	iCall 382_1 RFID OA (red) & iCall 382_2 RFID A (green)	worse case: Buzzer on, LED on, <u>During Card Batch!</u>	peaks to 65mA over period of 2s	peaks to 55mA over period of 2s	peaks to 50mA over period of 2s	-	
Regulations								
Parameter		condition		Compliance				
EMC				not yet				
ESD				not yet				
FCC				not yet				
ISO 14443 Compliant				not yet				