

iCall Emergency Station (EP)

Local Bus address unit with emergency button and cancel button. This emergency station is connected to the local bus using a 4 wire connection. The emergency station is programmed as an address on the bus, which can contain up to a maximum of 50 addresses. The IP-unit tests the communication to and from the emergency station every minute. On the backside there is a connection for the 4 wire local bus and 2 additional inputs and 2 additional outputs to connect external devices.

**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 3280 feet (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.

Features**Type of calls on front:**

- Emergency Call
- Staff Presence or Cancel
- Cancel

Type of calls on backside input (maximum 2):

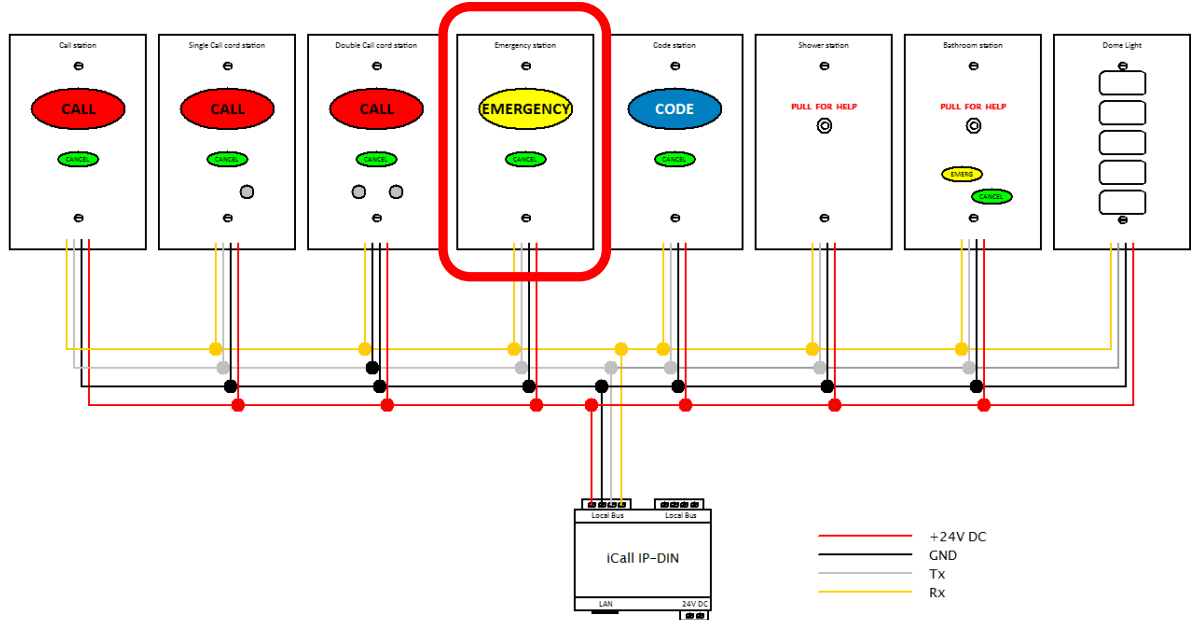
- Call
- Staff Presence or Cancel
- Staff Assist
- Cancel
- Emergency Call
- Bathroom Call
- Door
- Code Blue
- Technical Alarm

Type of outputs on backside (maximum 2):

- Call
- Staff Presence
- Bathroom Call
- Code Blue
- Technical Alarm

Topology

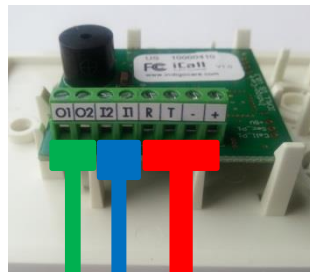
max 50 units



Connections



Registration button



Output
Input
Local bus

Name	Description
O1	Output 1
O2	Output 2
I2	Input 2
I1	Input 1
R	Rx data line
T	Tx data line
-	GND
+	+24V DC

Version

HW: iCall_US V0.3

SW: iCall_US V1.0



iCall_US product range

General Absolute Maximum Ratings !

		min	typ	max	unit
Supply Voltage	V _{cc}	18	24	30	V
Supply Current forward	I _f	5	7	15	mA
Operating Temperature (ambient)	T _{amb}	0	-	65	°C
Maximum reverse voltage	V _r	-	40	-	V
Leackage current (reverse)	I _r	-	-	15	µA

Mechanical properties

	Parameter		min	typ	max	unit	
PCB	Dimensions	L x W x H	-	40,5 x 46,5 x 14	-	mm	
		L x W x H	-	1,59" x 1,83" x 0,55	-	" (inch)	
		L x W x H	-	1594,5 x 1830,7 x 551,2	-	mils	
	Base material		-	FR-4, Td>=325°C, T260>=60', T288>=5', CTEz<=3.7%, Tg>=135°C	-	-	-
		Copper layer thickness		-	1,378	-	mils
				-	0,035	-	mm
	Isolation thickness		-	59,055	-	mils	
			-	1,5	-	mm	
	Total thickness		-	61,811	-	mils	
			-	1,57	-	mm	
weight		-	0,0287	-	lbs		
		-	0,013	-	kg		
Plastic	Base material	reference doc (Polylac 765A.PDF)	-	PA-765A	Acrylonitrile Butadiene Styrene	-	
	Weight		-	0,0882	-	lbs	
Foil	Base material	reference doc (Reflex LT.PDF)	-	Reflex	Hardcoated Polyester Film	-	
	Weight		-	0,0276	-	lbs	
Total Assembly	Weight		-	0,0125	-	kg	
			-	0,1444	-	lbs	
			-	0,066	-	kg	

Electrical properties

Symbol	Parameter	State	min	typ	max	unit	
V _{cc}	Operating Voltage		18	24	30	V dc	
I _f	Forward Supply Current	Standby	Finders LED off	6,0	6,1	6,1	mA
			Finders LED low	6,7	6,8	6,8	mA
			Finders LED medium	6,9	7,0	7,1	mA
			Finders LED high	7,1	7,2	7,2	mA
		Present	Finders LED medium	12,7	12,7	12,7	mA
		Emergency	Buzzer low	9,6	9,7	9,7	mA
			Buzzer medium	9,6	9,8	9,7	mA
Buzzer high	13,1		13,1	13,0	mA		
P _{tot}	Power Consumption	Standby	Finders LED off	108	147	184	mW
			Finders LED low	121	164	204	mW
			Finders LED medium	125	169	212	mW
			Finders LED high	128	173	217	mW
		Present	Finders LED medium	228	306	382	mW
		Emergency	Buzzer low	173	232	290	mW
			Buzzer medium	173	234	290	mW
Buzzer high	235		313	390	mW		
V _{input}	IO input voltage Range	Logical High	independant of V _{cc}	3,3	5 ↔ 24	30	V
		Logical Low	independant of V _{cc}	0	-	2,8	V
		Rear input features	input definable as active high / active low				
I _{output max}	IO Output current limit	current limitation	open-collector	-	55	-	mA
F	frequency	Buzzer		-	2300	-	Hz
L	Sound output level	Buzzer	Buzzer state at 'high'	85	-	-	dB

Thermal properties

Parameter		min	typ	max	unit
Flamability rating	Plastic	-	V0	-	-
	UL Flame Class* Foil	-	HB	-	-
Sugested temperature use Foil		-40	-	176	°F
		-40	-	80	°C

Operation / button specific properties

Parameter		min	typ	max	unit
Control buttons			Cancel ; Emergency		
indicators	LED's		Emergency ; Cancel ; registration		
	Buzzer		Emergency ; Room State ; Call following ; IO defenitions		
Buzzer interval	ratio Ton / Toff		ON=440 OFF=440	-	ms
			ON=825 OFF=825	-	ms

Regulations

FCC	Part 15B: 2010-10 ; Class B ANSI C 63.4:2003	Passed	
ESD	IEC 61000-4-2, Edition 2.0 2008-12	Contact discharge @ ±2 kV & ±4 kV	Passed
		Air discharge @ ±4 kV & ±8 kV	Passed
		Indirect discharge via HCP & VCP @ ±2 & ±4 kV	Passed

* Figures derived from DuPont Teijin Films™ (Melinex® O)