

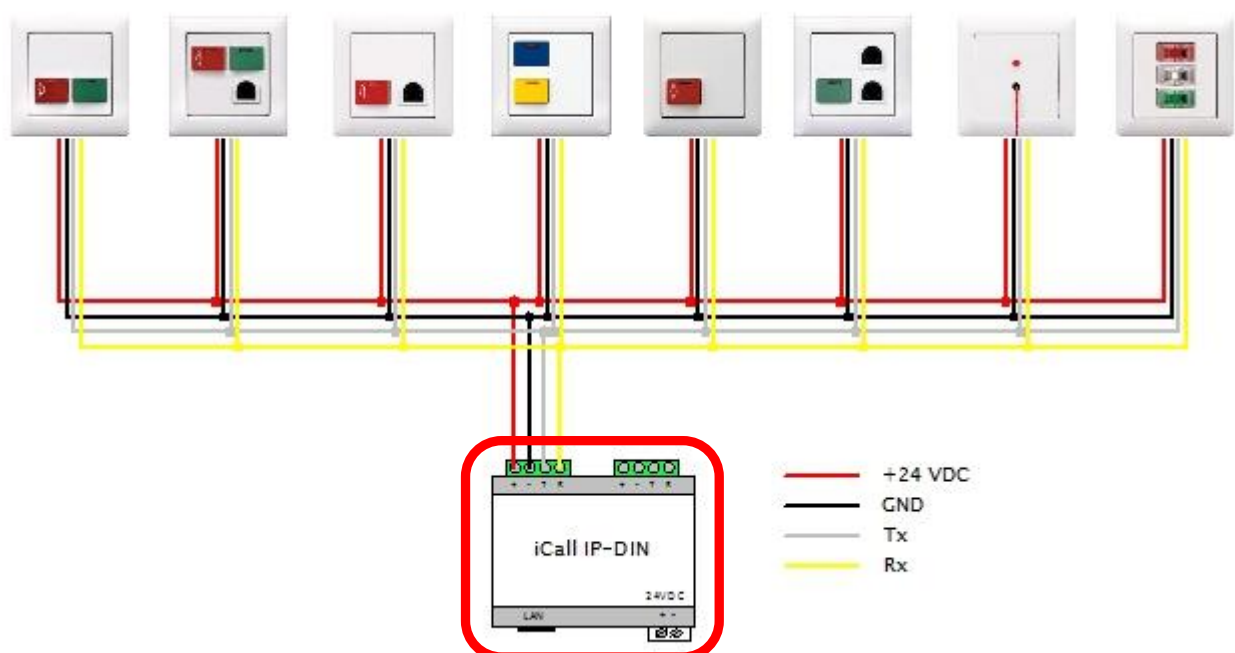
### iCall IP-Unit

The IP-unit is the master unit for Local Bus, it has 2 local bus connectors on top to connect up to a max of 50 local bus call stations and/or dome lights. An electronic overcurrent protection is implemented. The front has 4 LED indicators displaying the status of the IP-unit. The internal temperature of the IP-unit is constantly monitored and displayed on the website. At the bottom there are 2 connectors, one for the data network (LAN) and the other one to connect the power (+24V DC).

### 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.

### Topology



## Connections

### Top:

The top has 2 local bus connectors to connect up to 50 local bus call stations. The stations are connected by a four wire cable.



### Front:

The front has 4 led indicators:

- First one indicates if the unit is powered ON. (green)
- Second one for a fuse fail indication. (red)
- Third one is showing the data traffic on the TX line. (green)
- Fourth one is showing the data traffic on the RX line. (green)

Behind the front cover is a switch for resetting the electronically fuse.



### Bottom:

At the bottom are 2 connectors, one for the data network (LAN) and the other for connecting the power (+24V DC).



## Order information

NWAAES0160

iCall IP-DIN EMEA

Version

HW: iCall\_US V1.3  
SW: iCall\_US V2.05

## iCall\_US product range

## General Absolute Maximum Ratings !

			min	typ	max	unit
	Supply Voltage	V <sub>cc</sub>	18	24	30	V
	Supply Current forward	I <sub>f</sub>	60	70	100	mA
	Operating Temperature (ambient)	T <sub>amb</sub>	0	-	65	°C
	Maximum reverse voltage	V <sub>r</sub>	-	40	-	V
	Leakage current (reverse)	I <sub>r</sub>	-	-	15	µA

## Mechanical properties

	Parameter		min	typ	max	unit
	PCB	Dimensions (two assembled PCB's)	L x W x H	-	87 x 78 x 30	mm
			L x W x H	-	3,425" x 3,071" x 1,181"	" (inch)
		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
		Total weight (two assembled PCB's)	-	0,1279	-	lbs
			-	0,058	-	kg
	Plastic Case	Base material	<a href="#">reference doc (modulbox XT.pdf)</a>		PC/ABS	Self extinguishing Blend
		Dimensions	2 modules: EN 60715 according DIN 43880	L x W x H	90,6 x 71,5 x 62,2 3,567" x 2,815" x 2,449"	mm " (inch)
		Color	-	-	Grey RAL 7035	RAL
	Total Assembly	Weight	-	0,2712	-	lbs
			-	0,123	-	kg

## Electrical properties

Symbol	Parameter	State	min	typ	max	unit
V <sub>cc</sub>	Operating Voltage		18	24	30	V <sub>dc</sub>
I <sub>cc</sub>	Supply Current	Standby, LAN active	81,0	65,2	57,4	mA
		Standby, LAN active, RESET active	90,4	77,6	71,2	mA
P <sub>tot</sub>	Power Consumption	Standby, LAN active	1458	1565	1721	mW
		Standby, LAN active, RESET active	1627	1862	2137	mW
I limit-load	Current limiting circuit breaker	test performed with resistive load	2,1	2,2	2,3	A

## Microcontroller properties

Parameter	State	min	typ	max	unit
Ethernet Speed		-	10	-	Mbit/s
Processor Speed		-	96	-	MHz
Working memory (SDRAM)		-	8	-	Mbyte
Flash memory		-	8	-	Mbyte
Interfaces	Software	Telnet ; FTP server ; Web server			-
	Hardware	serial (RS232) ; I2C			-

## Thermal properties

Parameter		min	typ	max	unit
Flamability rating	Plastic	-	V0	-	UL94
Heat deflection temperature (D-648)		-	206,6	-	°F
		-	97	-	°C
Softening Point VICAT (D-1525)		-	237,2	-	°F
		-	114	-	°C

## Operation / button specific properties

Parameter		min	typ	max	unit
Control buttons		Reset			
Remote control	webserver interface	LocalBus power Reset ; LocalBus Current consumption measurement			
		Local temperature measurement			
Automatic Measurements	Temperature in DIN module	-13	-	257	°F
		-25	-	125	°C
	LocalBus Load Current	0	-	2,5	A
indicators	LED's	PWR OK/FAIL ; Tx comm ; Rx comm			
	Buzzer	Not available			
Monitored / Guarded parameters	webserver based	LocalBus Current consumption			
		LocalBus Voltage status			
		IP-DIN in case temperature			

## 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)