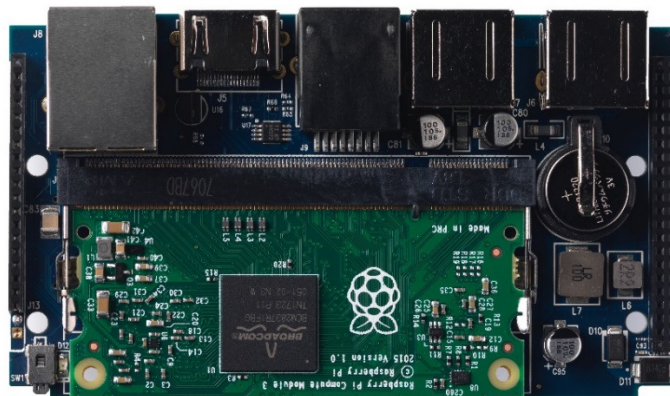


## DINGO Raspberry PI COM3 Compute Board

### Item specifications

Go-IoT Item Id:	Option	DINGO-CB-PI_COM3-02
CPU		BM2837 Processor @ 1GHz
RAM		1Gbyte LPDDR2
eMMC		None
SD Holder		Upto 64GByte SD Card
Ethernet		1 x 10/100 with Link / Activity LEDs 1 x 10 with Link / Activity LEDs
USB		1 x USB 2.0 Type A Connectors 2 x USB Ports to Base Board
Serial Interface		1 x RS232 via RJ45 Connector 1 x RS485 via RJ45 Connector 1 x TTL Serial Debug Connector 2 x TTL Serial Ports to Base Board
HDMI Video Output		1 x HDMI Connector
1-Wire Interface		1 x 1-Wire Interface via RJ45 Connector
Real Time Clock		DS1339 with Battery Backup
EEPROM		24LC32 – 4K x 8
I2C Ports		2
SPI Ports		1
Secure Authentication	A	NXP A7101CH
Expansion Connectors		1 x 40way header to Base Board 1 x 20way header to Base Board 1 x 30way header to Display Board 21 x GPIO
OS		Linux Raspian
DC Input		+12V @ 0.3A
Size (L x W x H)		101 x 60 x 19 mm
Temperature		-20degree C to +85degree C
Country of Manufacture:		EU



## J12 – 40WAY GPIO TO BASEBOARD

Pin	Port	Dir	Pull Up	Function	Description
1	+12V	IN		POWER	Main Power IN +12V DC
2	+12V	IN		POWER	Main Power IN +12V DC
3	GPIO16	OUT	NO	RELAY 1	Logic 1 – Activate Relay 1
4	GPIO27	IN	YES	OPTO	Opto Input 1
5	GPIO17	OUT	NO	RELAY 1	Logic 1 – Activate Relay 2
6	GPIO26	IN	YES	OPTO	Opto Input 2
7	SPI_CLK	OUT	NO	SPI	GPIO11 – SPI Clock
8	GPIO21	IN	YES	OPTO	Opto Input 3
9	SPI_MOSI	OUT	NO	SPI	GPIO10 - SPI Master Out – Slave In
10	GPIO22	IN	YES	OPTO	Opto Input 4
11	SPI_MISO	IN	NO	SPI	GPIO9 - SPI Master In – Slave Out
12	GPIO23	IN	YES	OPTO	Opto Input 5
13	SPI_SS0	OUT	NO	SPI	GPIO8 - SPI Slave Select 0 – Base Middle
14	GPIO24	IN	YES	OPTO	Opto Input 6
15	SPI_SS1	OUT	NO	SPI	GPIO7 - SPI Slave Select 1 – Base Left
16	GPIO12	IN	YES	OPTO	Opto Input 7
17	SPI_SS2	OUT	NO	SPI	GPIO34 - SPI Slave Select 1 – Base Right
18	GPIO13	IN	YES	OPTO	Opto Input 8
19	GPIO20	IN	YES	EVENT	EVENT from N-PLC Station 1
20	GPIO19	IN	YES	EVENT	EVENT from N-PLC Station 2
21	GPIO37	IN	YES	EVENT	EVENT from N-PLC Station 3
22					spare
23	TXD2	OUT	YES	UART	TXD to N-PLC Stations 1, 2, 3
24	RXD2	IN	YES	UART	RXD from N-PLC Stations 1, 2, 3
25	+5V	OUT		POWER	+5V Output – 2A available
26	+5V	OUT		POWER	+5V Output – 2A available
27	GND			POWER	GROUND
28	GND			POWER	GROUND
29	USB_DM				USB Channel 1 D- to Base Board Plug In 1
30	USB_DP				USB Channel 1 D+ to Base Board Plug In 1
31	External Battery				External RTC Battery
32	GPIO44	bi	NO		Spare
33	I2C1_SCL	OUT	YES	I2C	I2C Channel 1 Clock
34	I2C1_SDA	BI	YES	I2C	I2C Channel 1 Data
35	GPIO21	bi	NO		Spare
36	CTS3	IN	YES	UART	CTS from Baseboard – Station 2, 3
37	TXD3	OUT	NO	UART	TXD to Baseboard – Station 2, 3
38	RXD3	IN	YES	UART	RXD from Baseboard – Station 2, 3
39	RTS3	OUT	NO	UART	RTS to Baseboard – Station 2, 3
40	GND			POWER	GROUND

## J13 – 20WAY GPIO TO BASEBOARD

Pin	Port	Dir	Pull Up	Function	Description
1	+3.3V	OUT		POWER	+3.3V Output – 300mA available
2	I2C_SDA0	BI	YES	I2C	I2C Channel 0 Data
3	GND			POWER	GROUND
4	GND			POWER	GROUND
5	RTS3	OUT	NO	UART	RXD from Baseboard – Station 2, 3
6	GPIO5	OUT	NO	BOOT	BOOT to N-PLC Station 2
7	I2C_SCL0	OUT	YES	I2C	I2C Channel 0 Clock
8	TXD_CON	OUT	NO	UART	TXD – Debug Console
9	RXD_CON	IN	YES	UART	RXD – Debug Console
10	GPIO6	OUT	NO	BOOT	BOOT to N-PLC Station 1
11	GPIO4	OUT	NO	BOOT	BOOT to N-PLC Station 3
12	USB_DP	BI	NO	USB	USB Channel 4 D+ to Base Board Plug In 4
13	GPIO30				Battery ON -1 = Battery Backup
14	USB_DM	BI	NO	USB	USB Channel 4 D+ to Base Board Plug In 4
15	+5V	OUT		POWER	+5V Output – 2A available
16	USB_DP	BI	NO	USB	USB Channel 3 D+ to Base Board Plug In 2
17	USB_DM	BI	NO	USB	USB Channel 3 D- to Base Board Plug In 2
18	USB_DP	BI	NO	USB	USB Channel 2 D+ to Base Board Plug In 3
19	USB_DM	BI	NO	USB	USB Channel 2 D- to Base Board Plug In 3
20	GND			POWER	GROUND

## J9 – 8WAY RJ45

Pin	Port	Dir	Function	Description
1	TXD RS232	OUT	UART	RS232 – TXD 1 WIRE +5V – 100mA Fuse
2	RXD RS232	IN	UART	RS232 – RXD
3	TX+/RX+ RS485	BI	UART	RS485 –TX/RX+ Half Duplex – 120OHM Termination Resistor
4	1 WIRE VCC	OUT	POWER	1 WIRE +5V – 100mA Fuse
5	GND		POWER	GROUND
6	TX-/RX- RS485	BI	UART	RS485 –TX/RX- Half Duplex – 120OHM Termination Resistor
7	1 WIRE DATA	OUT	1 WIRE	1 WIRE DATA
8	1 WIRE GND		1 WIRE	1 WIRE GROUND

## J2 – 30WAY GPIO TO LED / LCD DISPLAY PCB

Pin	Port	Dir	Pull Up	Function	Description
1	+5V	OUT		POWER	+5V Output – 1A available
2	+5V	OUT		POWER	+5V Output – 1A available
3	+5V	OUT		POWER	+5V Output – 1A available
4	+5V	OUT		POWER	+5V Output – 1A available
5	I2C_SCL	OUT	YES	I2C0	I2C – Channel 0 Clock
6	SPI_MISO	IN		SPI	SPI Master In – Slave Out – LCD I/F
7	I2C_SDA	BI DI	YES	I2C0	I2C – Channel 0 Data
8	SPI_MOSI	OUT		SPI	SPI Master Out – Slave In – LCD I/F
9	I2C_SCL	OUT	YES	I2C1	I2C – Channel 1 Clock
10	SPI_CLK	OUT		SPI	SPI Clock – LCD I/F
11	I2C_SDA	IN	YES	I2C1	I2C – Channel 1 Data
12	SPI_SS0	OUT		SPI	SPI Slave Select 0 – LCD I/F
13	NC				Spare
14	SPI_SS1	OUT		SPI	SPI Slave Select 1
15	+3.3V	OUT		POWER	+3.3V Output – 300mA available
16	+3.3V	OUT		POWER	+3.3V Output – 300mA available
17	+3.3V	OUT		POWER	+3.3V Output – 300mA available
18	+3.3V	OUT		POWER	+3.3V Output – 300mA available
19	GPIO36	IN		INT	I2C INTERRUPT – I2C Switches
20	GPIO30	BI		GPIO	General Purpose – Not used
21	GPIO18	OUT		GPIO	LCD BACKLIGHT ON/OFF - PWM
22	GPIO31	OUT		GPIO	General Purpose
23	GPIO25	OUT		GPIO	SPI DATA/CMD for LCD
24	3.3V_RST	OUT		RESET	Output from 3.3V Supervisor
25	+12V	OUT		POWER	+12V DC OUT
26	+12V	OUT		POWER	+12V DC OUT
27	GND			POWER	GROUND
28	GND			POWER	GROUND
29	GND			POWER	GROUND
30	GND			POWER	GROUND

