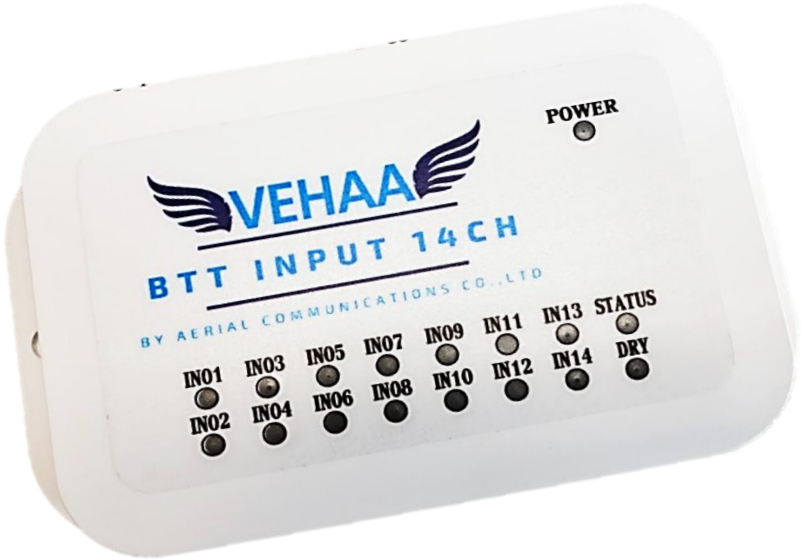


BTT INPUT 14 CHANNELS

ROTATION FIRMWARE USER GUIDE

REV.1

Multiple Use BTT INPUT 14 CHANNELS

BTT INPUT 14 CHANNELS is vehicle device offers multiple options. Measureable all necessaries signal for fleet management such as Engine Ignition, Break etc.

BTT INPUT 14 CHANNELS Features

- 12 Digital input 12-24V sensor devices.
- 2 Digital Dry input 12-24V sensor devices.
- Input power supply 5V with overvoltage protection
- Communication with RS232
- Data output in JSON format

VEHAA

BTT INPUT 14 CHANNELS Specifications

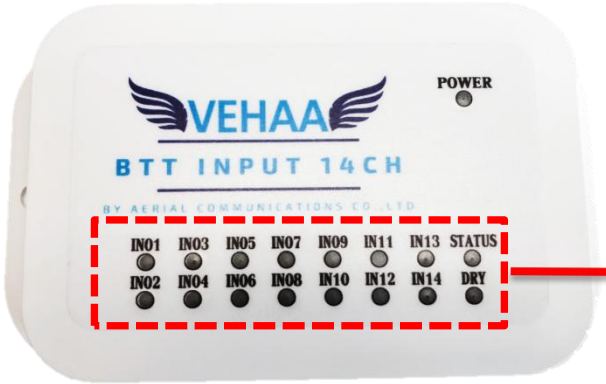
POWER	
OPERATING VOLTAGE	5 VDC
INTERFACE	
Digital Input Ch1-12	Digital Input (Active hight) On : 8.4V Max: 42V Off: 3.6V
Digital Input Ch13-14	Dry contact input (Active low)
RS232	1
LED	16 status LED lights
ENVIRONMENT	
OPERATING TEMPERATURE	-40˚C to +85˚C
PHYSICAL CHARACTERISTICS	
CONNECTOR	4 , 16 PINS MICRO-FIT

VEHAA

Hardware Description :

Input connector

Power & Communication(RS232) connector



Status LED

VEHAA

Input Connector

16	14	12	10	8	6	4	2
15	13	11	9	7	5	3	1

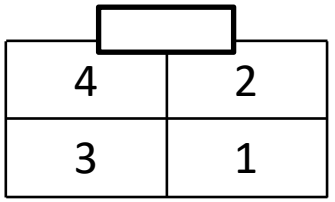
CH	ASSIGNMENT	I/O TYPE	DESCRIPTIONS
1	IO_01	Input	Input channel 1
2	IO_02	Input	Input channel 2
3	IO_03	Input	Input channel 3
4	IO_04	Input	Input channel 4
5	IO_05	Input	Input channel 5
6	IO_06	Input	Input channel 6
7	IO_07	Input	Input channel 7
8	IO_08	Input	Input channel 8
9	IO_09	Input	Input channel 9
10	IO_10	Input	Input channel 10

Input Connector

16	14	12	10	8	6	4	2
15	13	11	9	7	5	3	1

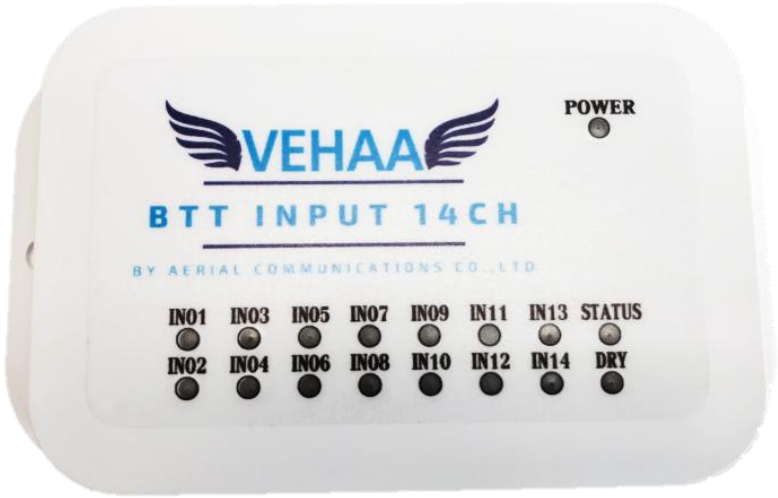
CH	ASSIGNMENT	I/O TYPE	DESCRIPTIONS
11	IO_11	Input	Input channel 11
12	IO_12	Input	Input channel 12
13	IO_13	Input	Input / Dry input channel 1(default)
14	IO_14	Input	Input / Dry input channel 2(default)
15	GND	Supply	
16	GND	Supply	

Communication Connector



CH	ASSIGNMENT	I/O TYPE	DESCRIPTIONS
1	GND	Supply	
2	RX	RS232	UART-receive
3	POWER 5V	Power	Input power supply
4	TX	RS232	UART-transmit

LED STATUS

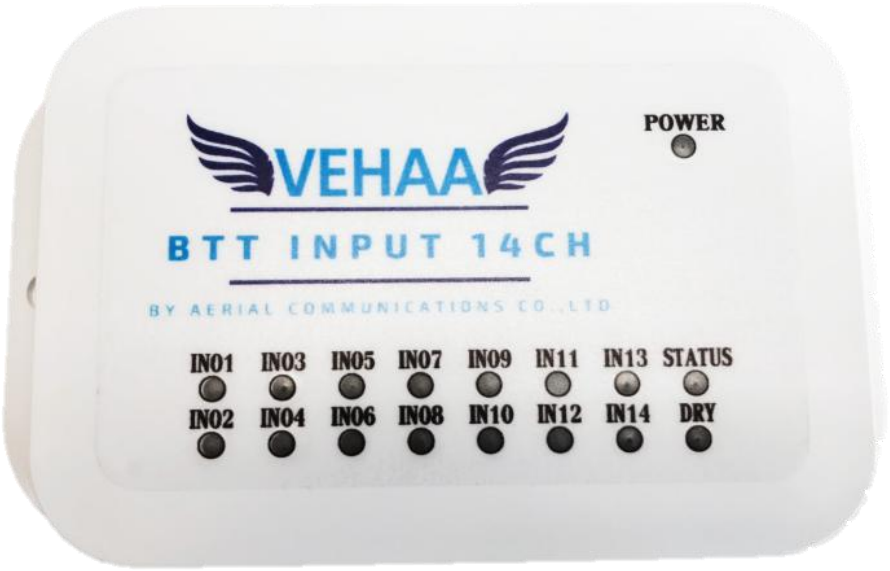


LED	Description
IN1	Digital input channel 1
IN2	Digital input channel 2
IN3	Digital input channel 3
IN4	Digital input channel 4
IN5	Digital input channel 5
IN6	Digital input channel 6

LED STATUS

LED	Description
IN7	Digital input channel 7
IN8	Digital input channel 8
IN9	Digital input channel 9
IN10	Digital input channel 10
IN11	Digital input channel 11
IN12	Digital input channel 12
IN13	Digital/Dry input channel 13
IN14	Digital/Dry input channel 14
DRY	Dry input mode
STATUS	Device status

LED Indicator



LED : IN1 - IN14

- Input Non-active
- Input Active

LED : STATUS

- Device not working
- (Blink 1:1) device working

LED : DRY

- Dry input Mode Non-active
- Dry input Mode Active

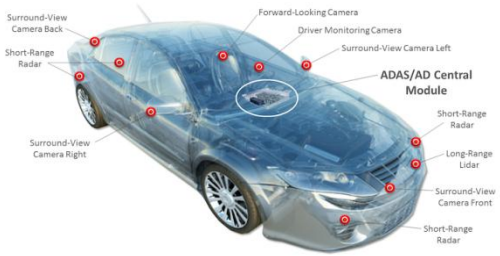
VEHAA

Applications:

Dry input : channel 13 -14

OR

Input : channel 1- 12

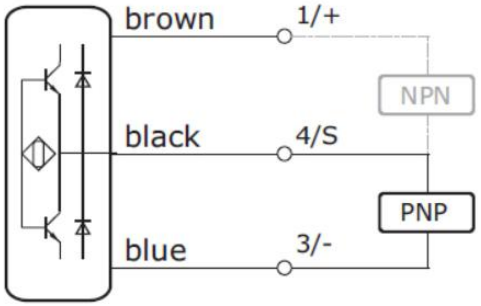


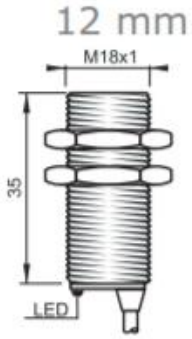
Proximity Sensor Specifications

PROXIMITY SENSOR refer to IPS18-S12NO35-A2P model (Not include)

SENSING DISTANCE	12 mm. - SHIELDED
OPERATING VOLTAGE	10 - 30 VDC
OPERATING TEMPERATURE	- 25 to + 75˚C
PROTECTION CLASS	IP67
OUTPUT TYPE	NPN – NO , 3 wire
CONNECTION	High-Flex PVC , 2m
ROTATION SPEED SENSING	3 - 300 (second)
DETECT ROTATION	Left , Right , Stop
DETECT CYCLE	Time per Cycle (scale: 100 ms.)

Output Schematics





Data Format

Frame Data output in JSON Format.
Connect with RS232 (Baud rate : 115200 , Data bits : 8 , Parity : None , Stop bits : 1)

- 14 input channels protocol (rotation firmware)

{"EXP12RT":version,"IN1":status,"IN2":status,"IN3":status,"IN4":status,"IN5":status,
"IN6":status,"IN7":status,"IN8":status,"IN9":status,"IN10":status,"IN11":status,
"IN12":status,"RT":direction,"TM":time,"SUM":"checksum"}

Item	Description
status	0 : inactive , 1 : active
direction	0 : Stop , 1 : Left , 2 : Right
time	Time per round (in unit of 0.1 second)

Accessories:

14 Input IO CABLE

16	14	12	10	8	6	4	2
15	13	11	9	7	5	3	1