

# ALPHA – ONE

## PORTABLE REMOTE-CONTROL BELLY PACK



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The ALPHA-ONE – portable remote-control unit is designed to work in conjunction with the ALPHA-ONE intelligent wireless controller. This portable remote-control unit is highly flexible regarding hosting different compositions of control elements. The ALPHA-ONE – portable remote-control unit can host up to three 3D joysticks, nine paddles, or a mix of both. Up to 2 potentiometers as well as up to 20 switch

functions can be hosted. This portable remote-control unit supports two different FHSS radio data modems. A 900 MHz version for the use in North America for wide area coverage applications, or a 2400 MHz for world wide applications. A tether link based on RS485 supports cable control mode. Standard AA batteries or rechargeable batteries can be used to power the ALPHA-ONE – portable remote-control unit.

## SAFETY SUPPORT

INPUT/OUTPUT TYPE	FUNCTIONAL DESCRIPTION	EXPLANATION
REDUNDANT E-STOP SWITCH	Disables the tether communication as well as radio communication (radio gets powered down) with a delay of 150 ms. The software monitors the E-Stop switch status.	The E-Stop must be cycled at the start-up of the unit. If the E-Stop gets activated, the software will transmit E-Stop data packets, the hardware will disable all communication with an delay of 150 ms.

## DATA MODEM

RADIO DATA MODEM TYPE	FREQUENCY / CHANNELS	USE CASES
DNT2400	2409.3 MHz – 2467.1 MHz 15 – 37 channels MSK, 1 ... 63 mW Tx power (38.4 kBd ... 500 kBd data rate)	<ul style="list-style-type: none"> <li>▪ Point-to-Point</li> <li>▪ Point-to-Multipoint</li> <li>▪ Mesh networks</li> </ul>
DNT900	902.75 MHz – 927.25 MHz 50 channels MSK, 1 ... 1000 mW Tx power (38.4 kBd ... 500 kBd data rate)	<ul style="list-style-type: none"> <li>▪ Point-to-Point</li> <li>▪ Point-to-Multipoint</li> <li>▪ Mesh networks</li> </ul>

## POWER SUPPLY INTERFACE

INPUT TYPE	FUNCTIONAL DESCRIPTION	ELECTRICAL SPEZIFICATION
BATTERY INPUT	All AA batteries or rechargeable batteries of same size.	1.5V ... 3V and up to 200 mAh.

## COMMUNICATION INTERFACES

INTERFACE TYPE	BUS STANDARD	USE CASE EXPLANATION
TETHER INTERFACE	RS485 half duplex serial interface.	2.4 kBd ... 500 kBd 1 start Bit 1, 1.5 & 2 stop Bits 5...8 data Bits
IrDa	Serial communication for contact less configuration and unit link-up.	115200 Bd 1 start Bit 2 stop Bits 8 data Bits even parity

## CONTROLS

CONTROL TYPE	CONTROL INPUTS	EXPLANATION
JOYSTICK	9 Joystick channels are supported	2D & 3D Joysticks can be installed. These channels are shared with the Paddle controls.
PADDLES	9 Paddle channels are supported	These channels are shared with the Joystick controls.
POTENTIOMETER	2 channels are supported	These channels are exclusively for the potentiometers.
SWITCH INPUTS	20 switch input channels are supported.	Each switch input handles one contact position.

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