

# Digital Switching



Part No. DSS-PKU2200

## PowerKey Ultimate 2200

FLEXIBLE - SMART - RUGGED

- Versatile, intelligent and affordable.
- High quality, rugged design, open protocols.
  - Various configuration capabilities.
- Custom features to create innovative solutions.

### HARDWARE FEATURES

- IP67/NEMA6 Rating - Guaranteed to be dust tight and sealed against water immersion to a depth of 1 metre for up to 1 hour.
- UV Protected - UVB 400 Hours: Keypad is highly resistant to deterioration caused by exposure to sunlight.

Packed with new features, Digital Switching Systems releases its new line of PowerKey Ultimate keypads. DSSA released the newly updated PowerKey Pro family of keypads with new features for added functionality and flexibility.

The PKU-2200, PKU2400 and PKU-2600 are now available with CANopen and RS232 protocol architecture. In addition, the PKU series will be available with industry first auxiliary I/O functionality. Known as ADD-On buttons, each model from the PKU series will be able to incorporate up to 3 additional external switches. Whether it be a mechanical rocker switch or an emergency stop switch, the PowerKey Ultimate is now more versatile than ever.



Icons shown on this keypad are for visual demonstration only.

## Features

- Reconfigurable keys
- Relegendable buttons
- LED state & status configurable
- Vertical or horizontal mount
- Flush-mount or front-mount
- LED backlit icons
- Multicolour indicator rings
- Overlay
- Laser etch
- Pad Print
- ON/OFF, momentary, toggle & scroll
- Over 100 stock icons to choose from

### OPTIONAL

- Up to 3 Add-On buttons/switch ports

## Other Benefits

- Programmer's manual available to help support plug-n-play
- New CAN GUI
- Can be mounted for a flush look
- Available in fixed legends

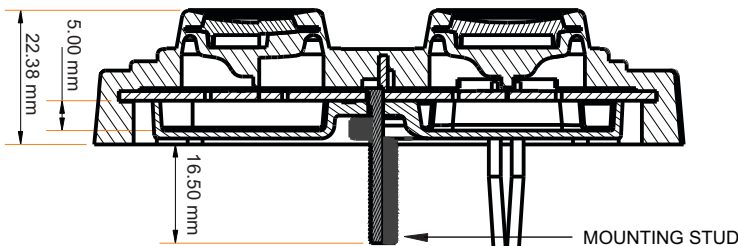
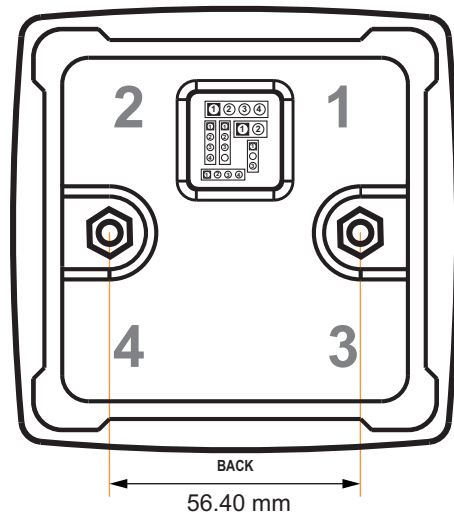
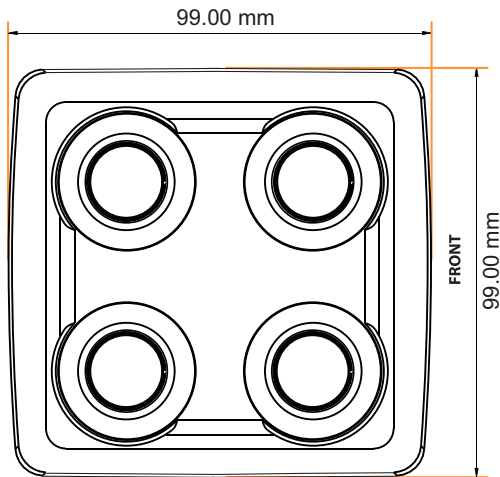
## Software Features

- Change CAN or RS485 Keypad addresses independently
- Periodic status transmission
- Heartbeat
- Event status transmission
- LED Acknowledgment
- Address claim transmission
- CANopen
- Application Programming Interface (API) using Development Kit
- CAN and RS485 Keypad Addresses - Assign any valid CAN (J1939) address to the keypad while also assigning the same or a different Rs485 address. Communicate on Either BUS simultaneously.
- J1939 Address Claim Transmission - Keypads no longer have to be pre-programmed to a specific address. This enables customers that work in applications in the field without access to a GUI to use any replacement keypad on hand. The keypad can be configured to automatically announce its address and accept a new address assignment as appropriate.
- Event Status Transmission - The keypad can send messages to the BUS indicating a button press or a button release event has occurred. This confirmation allows digital systems to have the same input acknowledgements as that of the latching position of a mechanical switch.
- Periodic Status Transmission - The keypad can be configured to send messages to the CAN BUS per button, on a predetermined frequency. This frequency can be set low as every 100 milliseconds. This feature can be used to monitor the continuity of the system and is also helpful in troubleshooting a fault.
- Periodic Heartbeat - The keypad sends a continuous broadcast of messages indicating it is functioning correctly. The message indicates the press or release status of each button at that instance. The frequency of these messages is preset to one message every 100 millisecond, but can be adjusted as needed.
- CANopen Communications Protocol - Fully compliant with Device Profile
- Extra I/O Ports - Up to 3 add-on switch ports are available for additional button switches, rocker switches, toggle switches or whatever you require. Each port comes with an indicator circuit as well, to power an indicator LED or LED on the switch. These extra ports appear on the BUS as though they were additional buttons on the keypad.



**This feature is an industry exclusive.**

# Diagrams



### Rs485 KEYPAD PIN-OUT

PIN	WIRE COLOUR	FUNCTION
1	GREEN	TxRx-
2	ORANGE	TxRx+
3	BLACK	GROUND
4	RED	+12/24 Vdc

### CAN KEYPAD PIN-OUT

PIN	WIRE COLOUR	FUNCTION
1	BLUE	CAN L
2	WHITE	CAN H
3	BLACK	GROUND
4	RED	+12/24 Vdc

# Specifications

## ELECTRICAL

Supply Voltage	12-24Vdc Nominal (8-32VDC)
Standby Current	<50 mA
Communication BUS	RS485, CANopen, J1939

## MECHANICAL

Connector	Deutsch DT04-4P, Molex 19418-0004, Micro-C and more
Switch Life	3 million operations
Mechanical Shock	X, Y, Z 50Gs 11ms
Vibration	X, Y, Z 10 - 150Hz 0.15mm amp
Mounting Studs	#10-32 CDS-510 phosphor bronze, electroplated bright tin
Keypad	Silicone rubber with polyurethane hardcoat
PC Board	1,6mm thick, Nema Grade FR-4, double clad with 1oz copper
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Thermal Shock	-40°C to +72°C @ 4°C/Min
Humidity	0 to 98% (no condensation)
UV Protection	UVB 400 hours
Salt Spray	Per ASTM B117
Chemical Resistance	Deet, Engine Cleaner, Isopropyl Alcohol, Suntan Lotion, Multi-Purpose Cleaner, Orange Citrus Cleaner, Muriatic Acid
Ingress protection Rating	IP67/NEMA6