

Product Comparison Sheet

Pullkey Systems

	IPS1000	IPS2000	IPS3000	
General Specifications			Non-IS	IS
Intrinsic Safe	None	Exia	None	Exia
Lock Out Indication	Mechanical Flag Arm	Mechanical Flag Arm	Mechanical Flag Arm	Mechanical Flag Arm
Low Power Consumption	√	√	√	√
Micro Processor Controlled	√	√	√	√
Lockout Number Indication				
SCADA	√	√	√	√
Control Panel	√	√	√	√
Local Pullkey Display	√	√	√	√
Lightning Protection	√	√	√	√
Number of Pullkeys per Single Power Supply	99	30	254	20
IP65	√	√	√	√
Pullkey Number Output Options				
7 Bit Binary (Relay Interface To PLC)	√	√	√	√
RS485 Modbus RTU Protocol	√	√	√	√
4-20mA current loop output	√	√	√	√
PSA Proofing (110dBA # 30cm)	X	X	√	√
LED Strobe for PSA Visual Indication	X	X	√	√
Pilot Loop LED indicating Lock Out	√	√	√	√
Pilot Status Indication	√	√	√	√
PSA Proof Status Indication	X	X	√	√
External Keypad Interface on each Pullkey	√	√	√	√
Desicated addresses for Belt Tear, Misalignmenet etc.	√	√	√	√
System Specifications				
Maximum Number Of Pullkeys per System	99	30	254	20
Supply Voltage	8 -> 28V	8 -> 28V	17 – 28V	17.4V
Maximum Distance On Pullkey Line	20 km	20 km	20 km	20 km
Baud Rate On Pullkey Line	300 baud	300 baud	300 baud	300 baud
Maximum Distance on RS485 Interface	1000m	1000m	1000m	1000m
Controller				
Pilot	Tone	Tone	Tone	Tone
Interface				
7 Bit Binary (Relay Interface To PLC)	√	√	√	√
RS485 Modbus RTU Protocol	√	√	√	√
4-20mA (Address Information)	√	√	√	√
System Interface	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
Set-Up Interface & Short Distance	RS232	RS232	RS232	RS232
Relay Specification	2A max. (at 30Vdc max.) / 0.5A max. (at 125Vac max.)	1A max. (at 30Vdc max.) / 0.5A max. (at 125Vac max.)	250mA (at 30Vdc max.)	250mA (at 30Vdc max.)
Display	2 Digit 7 segment LED	2 Digit 7 segment LED	4x20 character LCD / Keypad	4x20 character LCD / Keypad
Temperature Range	0°C -> 40°C	0°C -> 40°C	0°C -> 40°C	0°C -> 40°C
Impulse Protection	MOV, resistor and zener networks	MOV, resistor and zener networks	MOV, resistor and zener networks	MOV, resistor and zener networks
Supply Protection	2.5A (auto-reset)	2.5A (auto-reset)	2.5A (auto-reset)	2.5A (auto-reset)
Maximum Supply Current	1.5A (PSA on 99 pullkeys)	360mA (PSA on 30 pullkeys)	5,08A (PSA on 254 pullkeys)	400mA (PSA on 20 pullkeys)
Enclosure	C-rail mounted Instrumentation Enclosure	C-rail mounted Instrumentation Enclosure	C-rail mounted Instrumentation Enclosure	C-rail mounted Instrumentation Enclosure

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Pullkey				
Minimum Supply Voltage	8V (12V for full PSA sound level)	8V	9V	9V
Maximum Supply Voltage	28V	28V	28V	17.4V
Supply Current	2mA (maximum if not activated); 40mA (average when activated); 15mA on PSA	1mA (maximum if not activated); 40mA (average when activated); 12mA on PSA	10mA (Not Activated)	10mA (Not Activated)
PSA Audio Level	110dBA at 30cm typical (12V/ 15mA)	103dBA at 30cm typical (8V/ 12mA)	105 - 115dBA @ 30cm	105 - 115dBA @ 30cm
Display	2 Digit 7 segment LED	2 Digit 7 segment LED	2 or 3 Digit 7 segment LED display	2 or 3 Digit 7 segment LRD display
Lock-Out Indication	Mechanical flag-arm and 3 LED's	Mechanical flag-arm and 3 LED's	Mechanical flag-arm and 3 LED's	Mechanical flag-arm and 3 LED's
Enclosure	Polycarbonate	Polycarbonate	Glass Filled Polyester	Glass Filled Polyester
Waterproofing	IP65	IP65	IP65	IP65
Back Plate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Temperature Range	-20°C -> +60°C	-20°C -> +60°C	-20°C -> +60°C	-20°C -> +60°C
UV Protection	Insensitive	Insensitive	Insensitive	Insensitive
Connector	20mm Gland Entry /or Any 6 way connector (specified by end-user)	20mm Gland Entry /or Any 6 way connector (specified by end-user)	20mm Gland entries, other hole sizes and connectors optional	20mm Gland entries, other hole sizes and connectors optional
Impulse Protection	MOV, resistor and zener networks	MOV, resistor and zener networks	MOV, resistor and zener networks	MOV, resistor and zener networks
Switch	Switch to test PSA on local pull-key only	Switch to test PSA on local pull-key only	Switch to test PSA on local pull-key only	Switch to test PSA on local pull-key only
Set-Up Switches	Can be disabled by jumpers.	Can be disabled by jumpers.	Can be disabled by jumpers.	Can be disabled by jumpers.
Pilot				
Pilot Type	Tone Generator (link selected)	Tone Generator (link selected)	Tone Generator (link selected)	Tone Generator (link selected)
Pilot Output	Floating relay contact	Relay	Relay	Relay
Relay Specifications	2A max. (at 30Vdc max.) / 0.5A max. (at 125Vac max.)	1A max. (at 30Vdc max.) / 0.5A max. (at 125Vac max.)	250mA (at 30Vdc max.)	250mA (at 30Vdc max.)
Interface (Optional)				
Physical Layer	RS485 (Optically isolated)	RS485 (Optically isolated)	RS485 (Optically isolated)	RS485 (Optically isolated)
Isolation	1KV (1 minute)/ 2.5KV impulse	1KV (1 minute)/ 2.5KV impulse	1KV (1 minute)/ 2.5KV impulse	1KV (1 minute)/ 2.5KV impulse
Protocol	Modbus RTU	Modbus RTU	Modbus RTU	Modbus RTU
Maximum distance on RS485 Interface	1000m	1000m	1000m	1000m
Short Distance & System Set-Up	RS232 (impulse protected)	RS232 (impulse protected)	RS232 (impulse protected)	RS232 (impulse protected)
Maximum distance on RS232 Interface	10m	10m	10m	10m
4mA -> 20mA Interface	X	√	√	√
Relay Interface	X	√	√	√