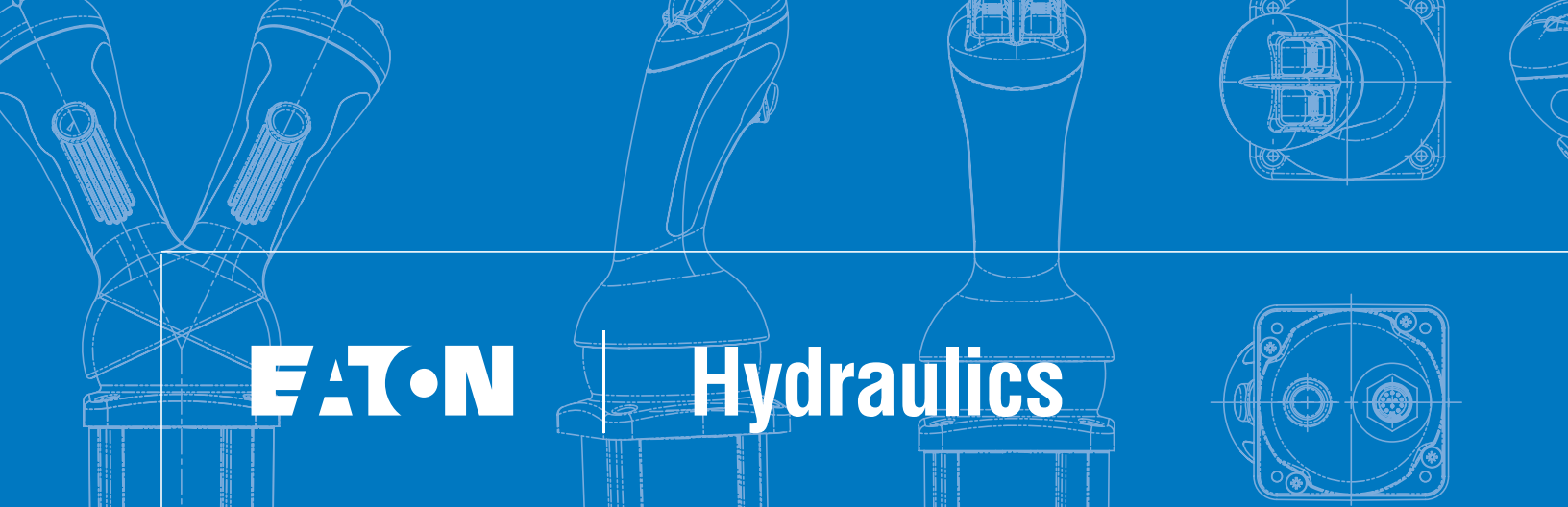




EAT•N

Hydraulics

Ultronics™ Joystick

Non-Contacting Programmable Controller



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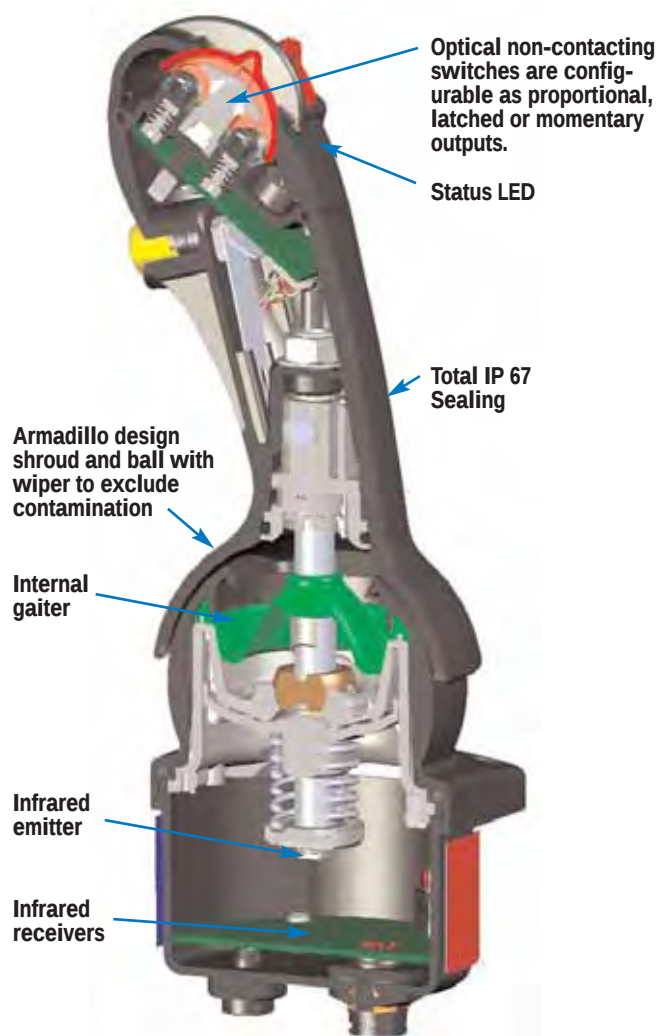
Product Overview

Functionality Provides capacity to work up to four proportional work functions simultaneously. Allows complete flexibility to tune joystick outputs and responses, resulting in precise control of work functions and less wear and tear on your application.	Robust Design Utilizes non-contacting optical sensors; thereby totally eliminating traditional wear issues found in standard potentiometer joysticks. This results in increased service life and less down time. Features a durable armadillo shroud with a built-in wiper seal and an internal engineered polymer gaiter that eliminates failures normally allocated with external gaiter due to ingress of contamination.	Modular Design Facilitates customization of joystick operator interface applications without affecting sealing integrity, providing the ability to create a customized solution quickly. Available options include single rollers, dual rollers, button combinations, and trigger options.	Configuration Comprehensive software utility (Joycal™) that enables the customer to configure all of the joystick outputs and responses to interface with individual machine and operator requirements.
			Ergonomic Engineered polymer handle with a contoured hand support offers increased operator comfort.

Features and Benefits

- Increased productivity and functionality
- Modular design - tailored to individual applications
- Designed to meet IP67 ingress protection rating
- EMC certified
- Programmable functions
- CAN bus outputs
- Ability to interface with OEMs individual CAN bus protocols
- Additional digital/analog outputs and analog 5V supply for connecting to other machine functions
- Up to 4 axis of proportional control
- On-board diagnostics
- Exceptional reliability - non-contacting sensors
- Zero maintenance
- LED for system status and error warnings
- Ergonomic design

Operating Cross Section



The product configuration model code is used to specify particular features when ordering an Ultronic Joystick.



Specifications and Performance

Operating Force

X Axis	8N (1.80 lbf) nominal
Y Axis	8N (1.80 lbf) nominal
Z Axis (Rollers)	4N (0.90 lbf) nominal
Trigger Buttons	4N (0.90 lbf) nominal
Switch Pack Buttons	4N (0.90 lbf) nominal

Operating Angle

X Axis	25 Degrees
Y Axis	25 Degrees
Z Axis (Rollers)	30 Degrees

Product Life / Reliability

X Y Z Axis, Trigger / Switch Buttons	Ten million cycles
Maximum X Y Axis Load	400N (89.92 lbf)

Electrical Specifications	Minimum	Typical	Maximum	Unit
Rated input voltage	6.5	12	30	V
Rated input current	-	80	300	mA
Inrush current	-	-	2.5	A
Analog inputs	0	-	5	V
Status indicator	Tri-colored programmable LED to output joystick status or error code			

Electromagnetic Compatibility

Product Standards	EN 13309 - EN 14982 - ISO 13766
Radiated immunity	ISO 11452-2,4,5 (100V/m)
Electrostatic discharge	ISO 10605 Level IV
Conducted emissions	CISPR-25: 1995
Radiated emissions	EN 13309, CISPR-25: 1995
Supply transients	ISO 7637-1,2

Note- External load dump protection devices recommended for systems prone to transients greater than level I (ISO 7637-1:1990).

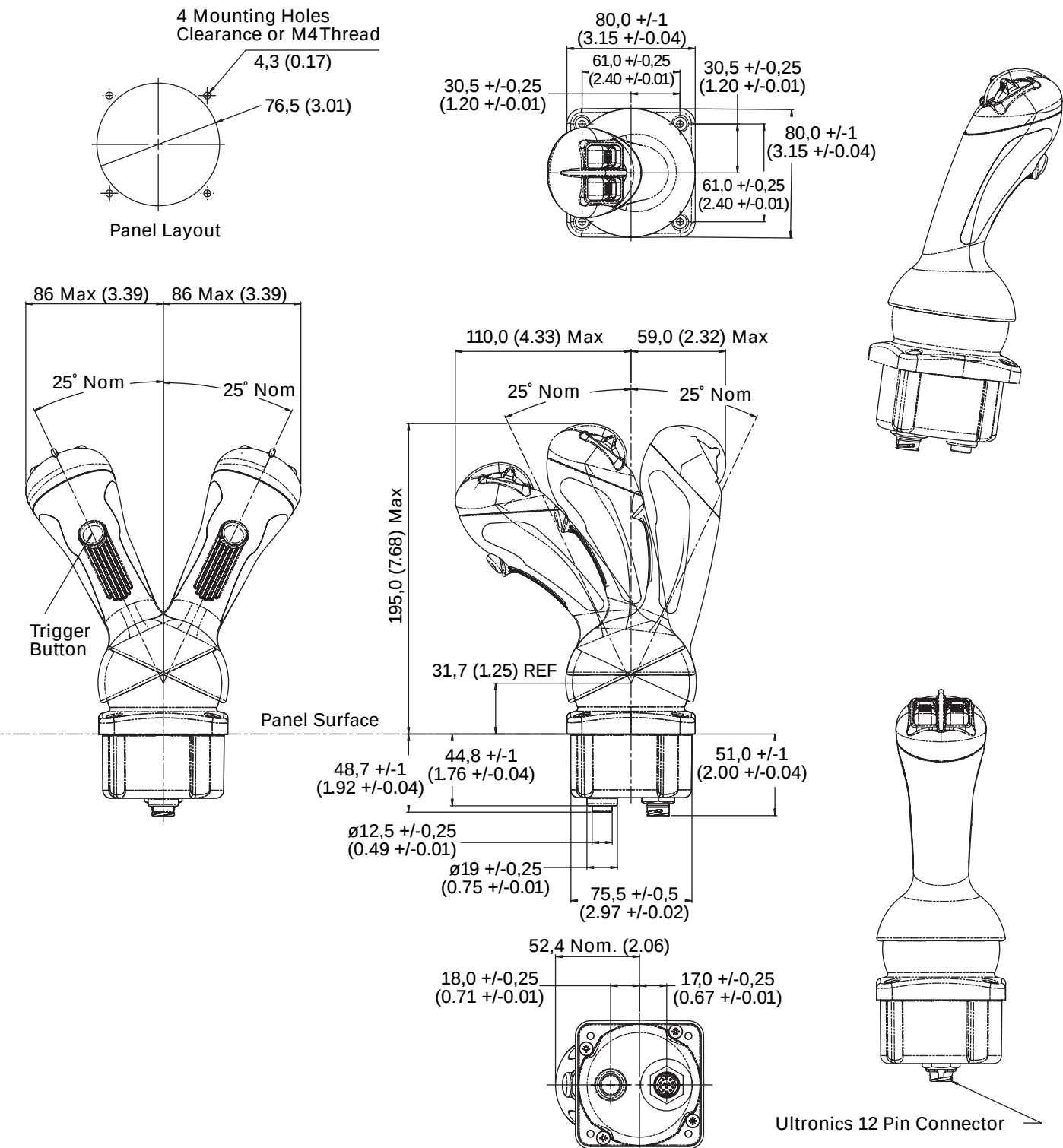
Environmental

Operating temperature	-40°C to +75°C
Ingress protection rating	IP67

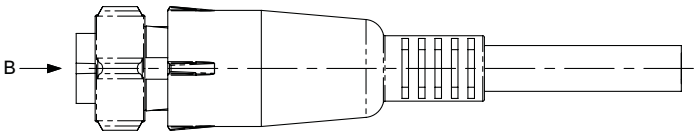
Product Installation –

Dimensions and Mounting

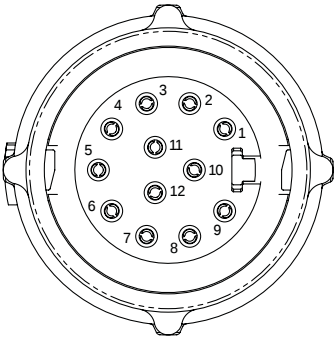
Dimensions are in mm (in)



Product
Installation –
Connector Pin Assignments



CAN Joystick Connections



SOCKET LAYOUT
VIEWED ON ARROW B

PIN	FUNCTION	I/O	VOLTAGE SIGNAL RANGE	SIGNAL TYPE	COLOR CODING
1	Supply +ve	Input	6.5-30V	Power DC	Red
2	Supply GND	Input	0V	Power DC	Green
3	CAN HI	Output	CAN/2.5-5V	Logic	Blue
4	CAN LOW	Output	CAN/0-2.5V	Logic	Yellow
5	ANALOG I/O GND	Output	0V	Power DC	Brown
6	ANALOG 5V SUPPLY	Output	+5V	Power DC	Grey
7	ANALOG INPUT	Input	0-5V	DC	White
8	DIGCH1	Input	0-5V	Logic	Purple
9	DIGCH2	Input	0-5V	Logic	Cyan
10	DIGCH3	Input	0-5V	Logic	Pink
11	Not connected	-	-	-	-
12	CAN cable shield termination	-	-	-	-

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