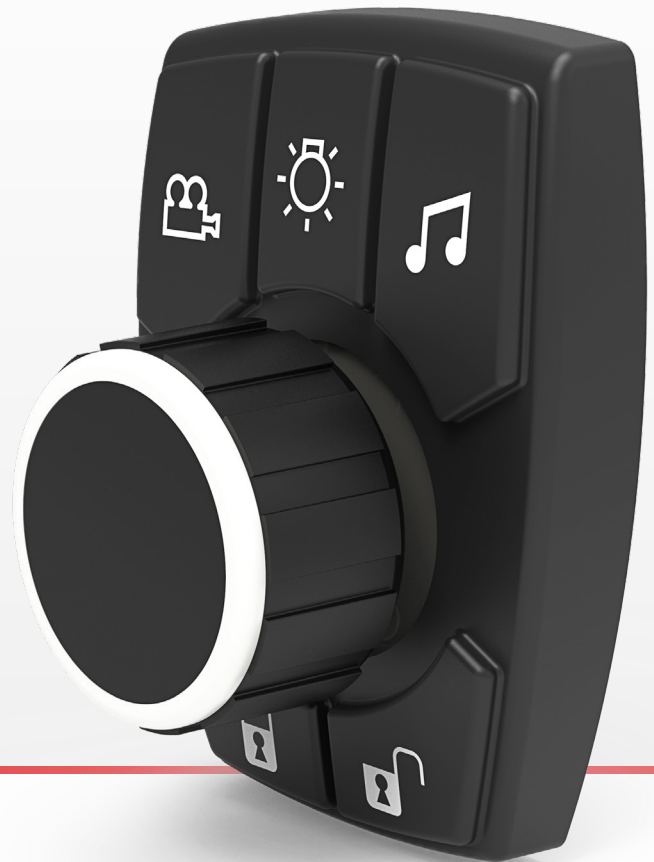


# CKJ-Series

A CAN J1939, sealed, jog switch feature a rotary and push knob.

[PRODUCT WEBPAGE](#)

*request sample, configure part, watch video*



The CKJ-Series jog switch features a joystick rotary encoder\* with push-to-select button and 5 customizable function buttons with dimmable lighting. This CAN J1939 compatible display controller is sealed to IP67 standards and can be configured in a variety of orientations providing simple installation and connectivity.

*\* Rotary switch only (CRS-Series) is available separately*

**12/24**  
VDC

**500,000**  
Cycles

**IP67 Sealing**  
for above-panel components

## Typical Applications

- Commercial Vehicles
- Construction Equipment
- Agricultural Equipment
- Work Trucks

# Design Features

## BUTTONS

Five customizable functions for quick access



## KNOB ( Joystick, Rotary & Push )

Easy menu scrolling, push-button selection and joystick navigation

*Rotary switch only (CRS-Series) is available separately*



## CONNECTOR

Deutsch 4 Pin DT-Series

# Related Products



**CLTM12-S-Series >**  
Load Controller



**CKP-Series >**  
Customizable Keypad



**VM-Series >**  
Operator Control Module

# Tech Specs

## Electrical

Operating Voltage	Designed for 12/24 VDC systems (8 minimum, 32 VDC maximum)
Electrical Endurance	<b>Keypad Buttons:</b> Up to 500,000 cycles <b>Knob Push:</b> Up to 500,000 cycles <b>Knob Directional Joystick:</b> Up to 500,000 cycles in each of four directions <b>Knob Rotation:</b> Up to 500,000 cycles, one cycle is 360°
Over Voltage	ISO 16750-2; 36 VDC for 60 minutes
Short Circuit Protection	ISO 16750-2; All outputs to ground for 60s
Reverse Polarity Protection	ISO 16750-2; 28 VDC for 60s
Starting Profile	ISO 16750-2; Class A
Withstand Voltage	ISO 16750-2; 500 Vrms with a duration of 60s
Insulation Resistance	ISO 16750-2; 500 VDC with a duration of 60s
Superimposed Alternating Voltage	ISO 16750-2; 4.4 Superimposed alternating voltage: UPP, of 4 VDC
Slow Decrease and Increase of Supply Voltage	ISO 16750-2; Increase the supply voltage from 0 VDC to 8 VDC, then decrease it from 8 VDC to 0 VDC, applying a change rate of 0.5 VDC/min linear
Momentary Drop in Supply Voltage	Test pulse applied in accordance with ISO 16750-2

## Electromagnetic Compatibility

ESD	ISO 10605; +/- 15kV air discharges, +/-8kV contact discharges
Absorbed-Lined Chamber	ISO 11452-2; Absorbed-lined chamber 100V/m, 80MHz to 2 GHz Class A
Bulk Current Injection	ISO 11452-4; 100mA, 20MHz to 400MHz Class A
Conducted Transients	ISO 7637-2:2004; All test pulse in Annex A table A1 for 12V system and Table A2 for 24V system, Level 4, pulse 2a/3a/3b/4/5a -Class A
Transient Emission	ISO 13766; 64dB to 54dB, 30MHz-75MHz (linearly decreases); 54dB to 65dB, 75MHz-400MHz (linearly increases); 65dB, 400MHz - 1000MHz

## Physical

Switch functions	5 keypad button, knob push, 4 directions knob joystick (optional), continuous rotary knob (20 detents per rotation)
Illumination	LED backlit icon, dimmable illumination, controlled by CAN messages
Mounting	M5 back screw mounting
Mounting Torque	2.26-2.82 nm [20~25 in-lbs]
Weight	196 grams [.43 lbs]

## Environmental

Sealing	IP67, for above-panel components of actual switch only
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Thermal, Hot Soak	IEC 60068-2-2; Test Bb, +85°C for 96 hours
Thermal, Cold Soak	IEC 60068-2-1; Test Ab, -40°C for 96 hours
Thermal Shock	IEC 60068-2-14; Test Na -40°C to +85°C, 10 cycles for 10 hours
Solar Radiation	IEC 60068-2-5; Procedure B, 24h per cycle, 20h irradiation and 4h darkness, total irradiation of 22.4kWh/m2 per diurnal cycle. 15 cycles
Humidity, Soak	IEC 60068-2-78; Test Cab, 30°C at 93% RH for 10 days
Humidity, Cyclic	IEC 60068-2-30; Test Db Method 1, 55 to 25 at 90% RH 6 cycles of 24 hours each
Salt Spray	IEC 60068-52; Test Kb, severity level 4
Chemical resistance (Resistance to Solvents)	ISO 16750-5; Method II (Brushing) for Engine oil, hydraulic oil, diesel fuel, grease and urea at room temperature for 24 hours
Thermal Cycling	IEC 60068-2-14; Test Nb, -40°C to +85°C, dwell: 3 hours; transfer rate:(3±0.6°C)/min, 2 cycles

## Mechanical

Vibration, Random	MIL-STD-202G; Method 214A Test condition A, 5.35Grms, from 50Hz to 2000Hz, each plane 8 h, total 24h
Vibration, Sinusoidal	IEC 60068-2-6; Sweep sine wave form 10 to 60.1Hz with 0.35mm amplitude, 60.1Hz to 2000Hz with 50m/s2, each plane 20 cycles (5h) total 60 cycles (15h)
Vibration, Resonance	IEC 60068-2-6; Sinusoidal from 10 to 2000Hz, 5 minutes at resonant point
Shock and Bump	IEC 60068-2-27; 3 shocks in each direction of the 3 axis (18 total shocks) at 500 m/s2 for 11 ms. 100 shocks in each direction of the 3 axis (600 total shocks) at 400 m/s2 for 6 ms
Drop test	IEC 60068-2-31; Test Ec Free Fall - Procedure 1 drop in each direction of the 3 axis (6 total drops) from 1000mm

## Software Interface Integration

Click below for instructions on integrating the CKJ-Series: [www.carlingtech.com/sites/default/files/documents/ckj-series\\_interface.pdf](http://www.carlingtech.com/sites/default/files/documents/ckj-series_interface.pdf)

# Ordering Scheme

Sample Part No. **CKJ-1A1-111-C-J129/00-00-00-00-00**

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

## 1. SERIES

**CKJ** Customizable Jog Switch

## 2. KNOB INPUT TYPE AND FUNCTION

- 1 Directional, Rotary and Push
- 2 Rotary and Push
- 3 Rotary Only

## 3. BUTTON LAYOUT

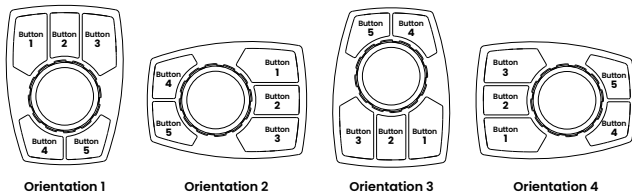
**A** 5 Buttons

## 4. KNOB COLOR AND STYLE

**1** Standard

## 5. ORIENTATION

- 1 Orientation 1
- 2 Orientation 2
- 3 Orientation 3
- 4 Orientation 4



## 6. KEYPAD COLOR

**1** Black

## 7. CONNECTOR

**1** Deutsch 4 Pin DT-Series

## 8. ILLUMINATION <sup>1</sup>

- |                |                 |
|----------------|-----------------|
| <b>0</b> None  | <b>C</b> Yellow |
| <b>A</b> White | <b>D</b> Blue   |
| <b>B</b> Green | <b>E</b> Red    |

## 9. COMMUNICATION PROTOCOL

- J** J1939, 250K Baud Rate
- L** J1939, 500K Baud Rate

## 10. SOURCE ADDRESS <sup>2</sup>

**000** A Unique Number from 000 to 248

## 11, 12, 13, 14, 15. LEGENDS - BUTTONS 1 TO 5 <sup>3, 4</sup>

- 00** No legend
- G1** Numeric icons for orientation 1
- G2** Numeric icons for orientation 2
- G3** Numeric icons for orientation 3
- G4** Numeric icons for orientation 4

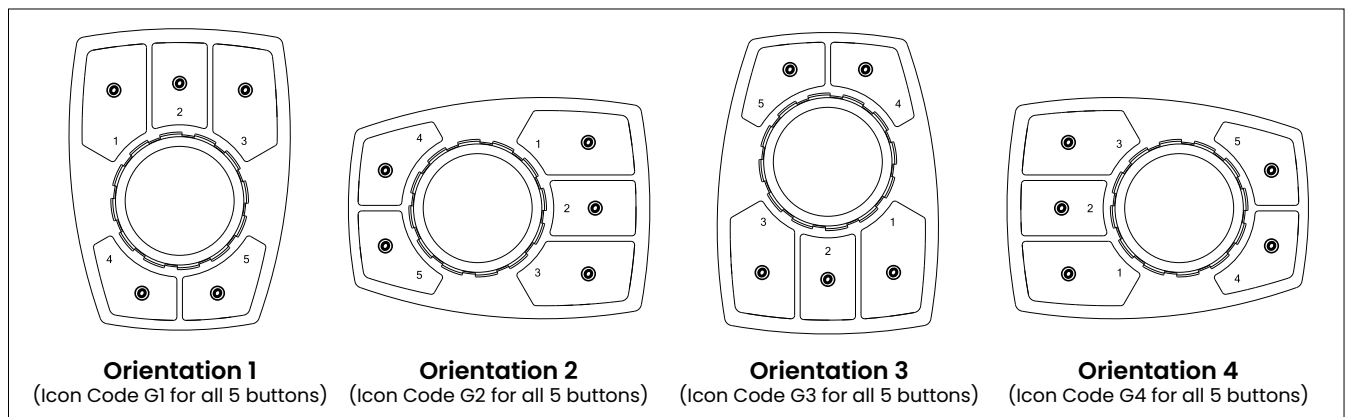
For additional legends, please consult factory

### Notes:

1. Standard backlight color is white.
2. Default source address is 129.
3. Icon code G1 indicates a set of icons on all 5 buttons. Use icon code G1 for each button. For example, CKJ-1A1-111-A-1100/G1-G1-G1-G1-G1. Same case for icon codes G2, G3, and G4.
4. Orientation must match option chosen in box 5

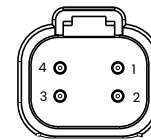
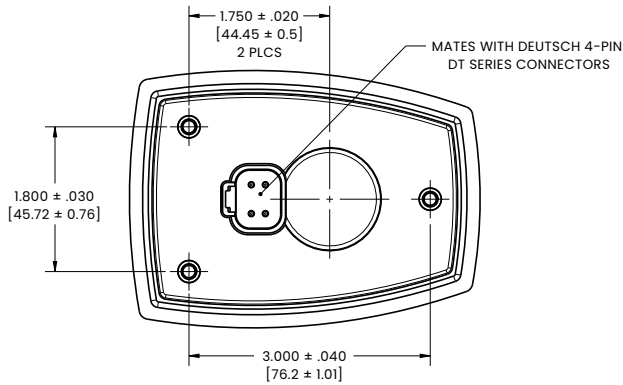
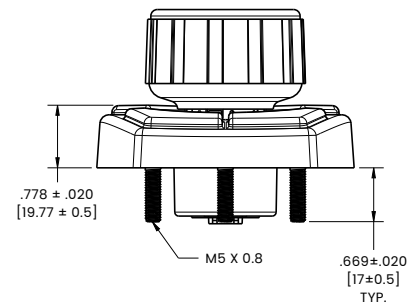
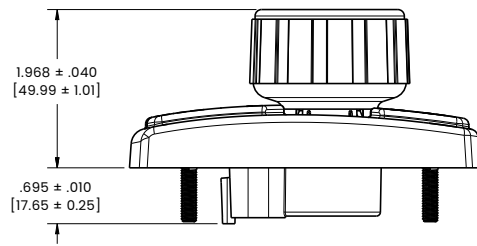
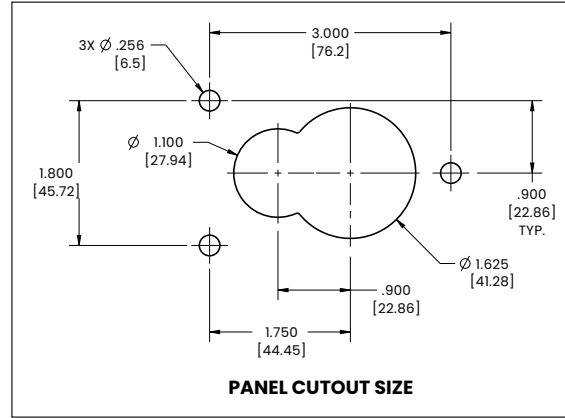
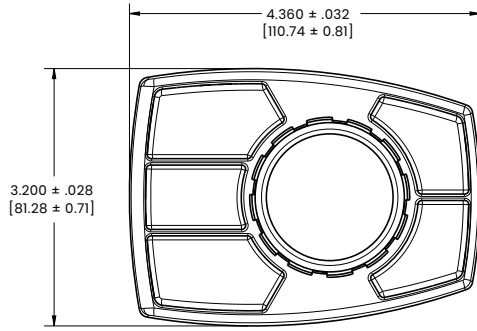
[Configure Complete Part Number >](#)

## Legend/Button Orientation



# Dimensional Specs

inches [millimeters]

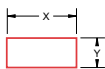


PIN NO.	DESIGNATION
1	POWER
2	GND
3	CAN H
4	CAN L

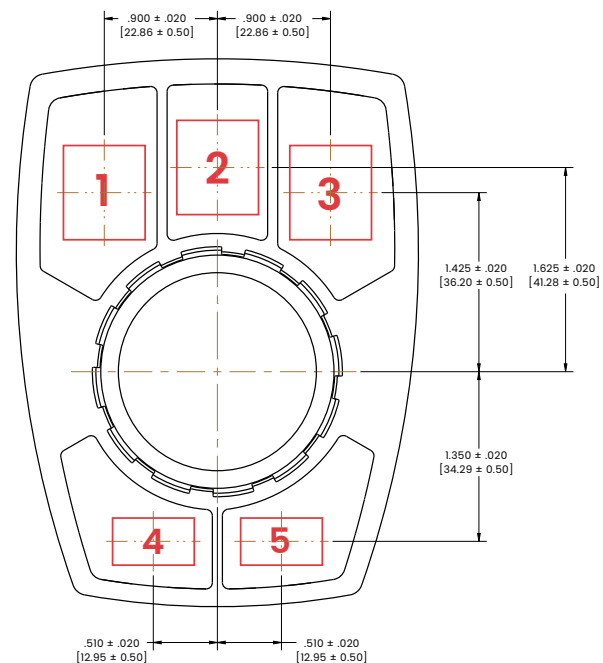
PIN OUT AS SHOWN

## Legend Marking Area

		MARKING AREA				
		1	2	3	4	5
X		.650 [16.51]	.650 [16.51]	.650 [16.51]	.650 [16.51]	.650 [16.51]
Y		.750 [19.05]	.750 [19.05]	.750 [19.05]	.380 [9.65]	.380 [9.65]



Icon marking area and location  
Unless otherwise specified, icon size and location should follow this drawing and is applicable to all 4 orientations



# Standard Legend Codes

YK	UA	UB	US	UV	UW	UX	UY	MP	MR	PX	MS	MT
VU	MW	NZ	NX	NY	YM	VW	PS	PW	PZ	WG	WM	RN
RP	YG	TX	VD	VE	VF	VG	SH	SM	SN	SP	SR	SY
DIM	BRIGHT	UH	UJ	PD	PE	PF	VC	VJ	UF	UG	MU	TN
WY	WZ	WIPER	VZ	YE	NN	RW	PU	WA	YN	UE	NM	RJ
NS	PB	SE	VR	SL	VA	UC	VN	PK	VY	HORN	RH	NU
NR	YD	TL	VR	SL	VA	UC	VN	PK	VY	UZ	RH	NU
NV	RB	RC	RK	RL	MZ	RG	UP	DOWN	UD	UR	WD	TY
PA	UK	WR	UU	UT	YR	PM	VV	WB	TB	TC	TD	TE
MY	PV	TA	TZ	WC	PT	PN	PH	RA	TU	TT	YL	SK
VS	UL	UM	WK	TS	VT	WL	VP	YJ	PJ	RY	UP	NW
NP	RE	RF	PP	PR	TV	PC	YT	YU	PL	WJ	MV	RR
TK	RT	SEAT	VX	WF	WH	PG	SJ	YA	YB	RM	TM	RD
RS	UN	TP	TR	NT	MX	YC	TW	TJ	YF	TH	TF	TG
YS	YH	AUX	ON OFF	OFF ON	I O	O I	OFF ON	ON OFF	ON OFF	I O	O I	II
RAISE	LOWER	HIGH	LOW	FWD	REV	DEPTH	TRIM TAB	ACC	NAV ANCH	WIND LASS UP/DN	LIVE WELL	REAR
ST	SU	WU	WV	SV	SW	VB	VH	VK	VL	VM	WE	SF
PARK	AUTO	RU	RV	RX								
SG	SS											

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