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**CA Series  
LIMIT SWITCH  
Product Specification  
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## Introduction:

The ControlLink CA Series Limit Switch provides a compact design and low cost for both visual and remote electrical indication of rotary valve/actuator position. The wide variety of options make the CA Series the ideal multi-purpose Limit Switch for use in NEMA 4X general purpose applications. Hermetically sealed and solid state switch options also make the CA series suitable for use in intrinsically safe applications and Class I & II Division 2 Groups A, B, C, D, F & G hazardous applications.



## Features:

- 1. Aluminum Housing:** is UL and CUL listed.  
The polyester powder coating inside and outside plus stainless steel shaft, make this unit ideal for use in hostile environments. For the most demanding applications an optional stainless steel housing is also available. All housings have captive cover screws.
- 2. Compact Body Design:** Ideal for use on all size actuators including very small units.
- 3. Multiple Switch Options:** Wide variety of mechanical, proximity and inductive switch options provide the most effective and economical choice for each specific application.
- 4. Visual Position Indication:** The 3D rotor provides high visibility confirmation of valve/actuator position.
- 5. Pre-wired PCB Modules:** Switches are factory wired to Printed Circuit Boards to simplify installation and maintenance. Each PCB terminal strip includes two spare terminals to accommodate an optional solenoid valve. This feature provides a significant cost saving by eliminating the need for a separate junction box and associated labor.
- 6. “Easy-Set” Cams:** are splined, spring loaded and independently adjustable. This design offers tool-free calibration and positive vibration resistant engagement.
- 7. Multiple Cable Entries:** Standard with two ½” NPT cable entries with option for third entry.
- 8. Standardized Mounting:** Housing conforms to international dimension standards NAMUR ISO 5211 output shaft dimensions and ISO F05 bolt hole locations. This maximizes interchangeability plus reduces cost by eliminating need for switch/actuator coupler.
- 9. Options:** AS-i digital communication interface card, 3-position dribble control, 4-20mA feedback transmitter, pneumatic limit switches, low profile housing cover, NAMUR mounting brackets.



LINKING THE PROCESS WITH THE CONTROL ROOM

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### How To Order:

- **SERIES**

CA - Aluminum Housing  
CS - 316 SS Housing

- **VISUAL POSITION INDICATION**

A - Aluminum cover with no position indicator  
B - Polycarbonate cover with 3D indicator  
C - Aluminum cover with Disk indicator

F - Metallic cover with 3D indicator

L - Polycarbonate cover & three-way 3D indicator ('L' Port)

T - Polycarbonate cover & three-way 3D indicator ('T' Port)

- **SWITCH TYPE**

01 - Mechanical SPDT  
03 - Mechanical SPDT (gold plated contacts)  
05 - Mechanical DPDT  
10 - Proximity SPST  
13 - Proximity SPST, Bifurcated  
14 - Proximity SPDT (standard)  
16 - Proximity DPDT  
70 - Proximity V3 P&F NJ2-V3-N  
71 - Proximity V3 P&F NBB2-V3-US  
73 - Proximity V3 P&F NBB2-V3-E2  
82 - Three-way pneumatic valve  
AS - AS-interface  
DC - Mechanical SPDT  
  
DD - Mechanical SPDT  
  
MA - Transmitter plus two Mechanical SPDT switches  
MX - Transmitter only

**RATING (see note 1)**

5amp @ 250VAC, 0.5amp @ 24VDC, resistive/inductive  
0.1amp @ 120VAC, resistive  
5amp @ 250VAC, ¼ HP @ 125VAC, resistive/inductive  
0.25amp @ 120VAC, 0.7amp @ 42VAC, resistive  
1.5amp @ 120VAC, 0.55amp @ 24VDC, resistive/inductive  
0.25amp @ 120VAC, 0.416amp @ 48VDC, resistive  
0.25amp @ 120VAC, 0.416amp @ 48VDC, resistive  
2-wire, NAMUR Output, 15mA max, not amplified  
2-wire, 5 to 200mA, 20 to 140 volts (AC or DC)  
3-wire, PNP, 5 to 100mA @ 30VDC, Amplified

Two inputs plus one 100 mA output

3-position control, no position indication, for DA actuator

Same switch rating as type 01

Dribble control, no position indication, for SR actuator

Same switch rating as type 01

4-20mA, 9-30 VDC plus switch rated same as type 01

4-20mA, 9-30 VDC

- **SWITCH QUANTITY**

0 - No Switches (use with 'MX' option)  
1 - One Switch

2 - Two Switches

3 - Three Switches (only available with switch types 01 & 03)

- **TERMINAL STRIP**

0 - Standard Circuit Board Strip  
1 - Standard AS-i Terminal Connections

2 - Blue Circuit Board Strip (10 poles)

5 - ⅛" Pneumatic Connections

- **COLOR/COATING**

1 - Blue /Polyester Powder Coated (Standard)  
S - Stainless Steel

- **CABLE ENTRY/CONNECTION & OPTIONS**

E - Two ½" NPT  
F - M12 Connector ('AS' option only)

HA - 5 watt heater (120VAC)

HD - 5 watt heater (24VDC)

### **Notes:**

1) The recommended minimum load for switch type 01, TX and MA is 50mA. All other switch types are suitable for applications as low as 1mA. For complete details regarding switch ratings refer to PS00031

## Options:



**AS-i** (Actuator Sensor interface) option utilizes 2-wire digital communication to simplify wiring plus significantly reduce wiring and commissioning costs.

**3-Position Dribble Control** is achieved by utilizing special cams and wiring. See XA Series for more 3-position options.



**Housings** are available in polyester powder coated aluminum or unpainted stainless steel. All housings have two 1/2" NPT conduit entries.

**Housing Cover** options include a 3D high profile position indicator with a polycarbonate or aluminum housing cover, a low profile flat disk indicator or a low profile aluminum cover with no position indication



**Feedback Transmitter** provides 4-20mA confirmation of valve/actuator position. The transmitter option can be used with or without limit switches

**Mechanical Switches** offer the most economical choice for general purpose applications. Optional gold plated contacts significantly enhance performance on low current (<50mA) applications.



**Proximity** switches are hermetically sealed to provide maximum environmental protection and extended cycle life. Bifurcated versions can be used effectively on both high and low current applications. Low current versions are available with optional LED.

**Inductive** proximity switches, Pepperl & Fuchs brand, are available in multiple configurations and are ideal for intrinsically safe applications.





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**Specifications:**

Housing	Aluminum – Polyester Coated or Stainless Steel
Cover	Polycarbonate, Aluminum or Stainless Steel
Shaft	Stainless Steel
Cam / Splines	UV Resistant Polycarbonate
3D Rotor	UV Resistant Polycarbonate
Terminal Block	Stainless Steel screws & PVC housing
Internal Brackets	Stainless Steel
Fasteners	Stainless Steel
Temperature Range	-40°F to +176°F (-40°C to +80°C) -14°F to +212°F (-26° to +100°C) for P&F switches only Low and High temperature versions also available
Weight	1.25 Lbs.
Enclosure Approvals	UL and CUL, NEMA 4,4X also CENELEC IP65
Switch Approvals	<b>Mechanical Switches:</b> are suitable for general purpose applications. Gold plated versions can also be used on intrinsically safe applications. <b>Proximity Switches:</b> are suitable for intrinsically safe applications and also hazardous locations Class I & II Division 2 Groups A, B, C, D, F & G

