Feedback Unit

MICRONOR
automation components

9000.00.102

Customer: Chicago Mold

- Compact 3.5“ Feedback Unit
- 3-Channel Geared Limit Switches
- Gear Ratio 265:1
- Replaces Micron 45-303-818-1247

NOTE: Above gear ratio based on 96” ball screw with 10mm/rev pitch=244 revolutions. Customer’s responsibilty to verify that his machine has same length of travel as this determines the gear ratio of the Micronor replacement geared limit switch.

Accessories included:

- SD Cam programming tool

Performance Specifications

Temperature	-15°C to +60°C
Humidity	0-95% RH, Non-Condensing
Protection	IP64

Limit Switches	**3 Channels**
Gear Ratio	+265 : -1
Gears	ZERO LINE Option
Cam Type	NV4201.180°
Cam Programming Tool	SD programming tool
Microswitches	Low Hysteresis KS25B4
Part Number	6099.00.034
Circuitry	SPDT; COM / NO / NC
Switch rating (VDE)	4A 250 VAC / 1A 60 VDC
Overall Hysteresis (Input to Switch)	609°, typical
Overall Repeatability (Input to Switch)	35°, typical
Overall Accuracy (Input to Switch)	135°, typical

Label

Position Transducer App.Nr. M-XXXXXX
L3=265:1 Per TD 9000.00.102
Replaces Micron 45-303-818-1247

MICRONOR P/N 9000.00.102
USA +1-805-389-6600 sales@micronor.com
EUR +41-44-843-4020 www.micronor.com

Specification not to be changed without customer approval

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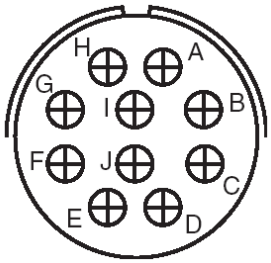
Electrical Wiring

Mounted Receptacle **MS3102A18-1P (10C, Male/Pin Contacts)**

Mating Plug (available separately) **MS3106F18-1S (10C, Female/Socket Contacts)**

Wire colour	Component	MICRON Function	KS25B4 Switch Connection	Connector Pin No.	Notes
Red	SW1	COM	COM (1)	A	
Yellow		NO	NC (2)	B	
Black		NC	NO (3)	C	
Red	SW2	COM	COM (1)	D	
Yellow		NO	NC (2)	E	
Black		NC	NO (3)	F	
Red	SW3	COM	COM (1)	G	
Yellow		NO	NC (2)	H	
Black		NC	NO (3)	I	
				J	No Connection



NOTE: The above switch wiring assumes that the limit switch ON period is < 180° (132.5 turns)

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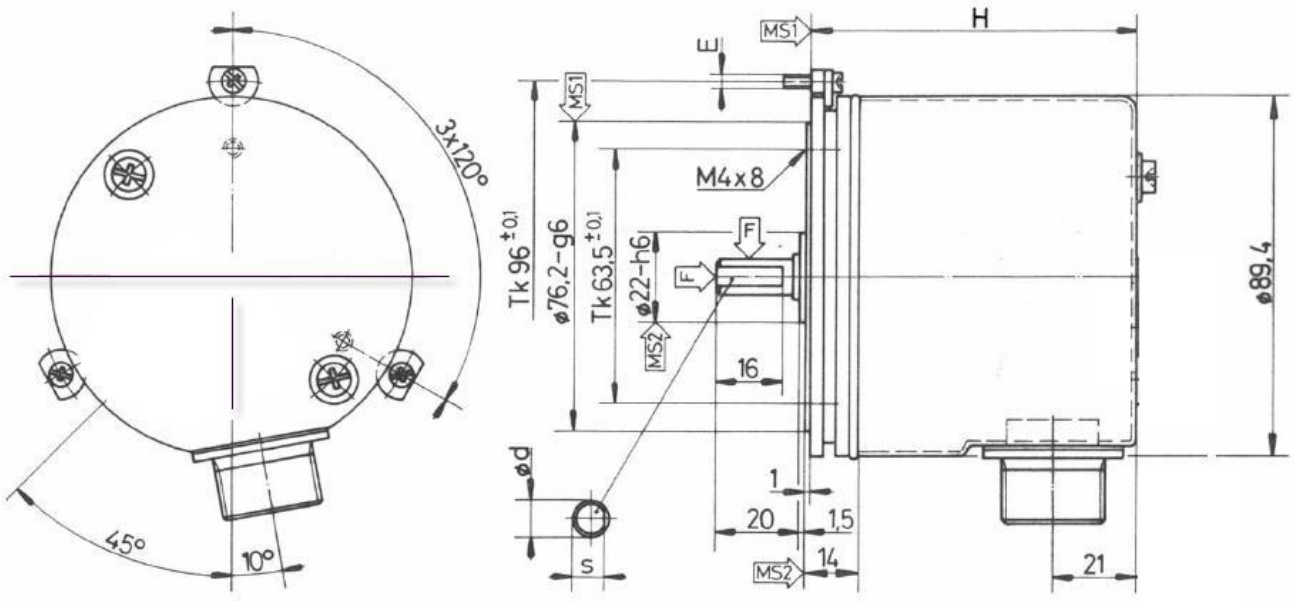
Reference Drawing (For Engineering Reference Only)

∅ d = 9.52 h8 (DIA 0.3748 inch) with Dual Flats (90 degrees apart)
s = 9.0 (0.3543 inch)
F = ⇨40 N ⇩80 N
MS = Mounting Surface
H = TBD



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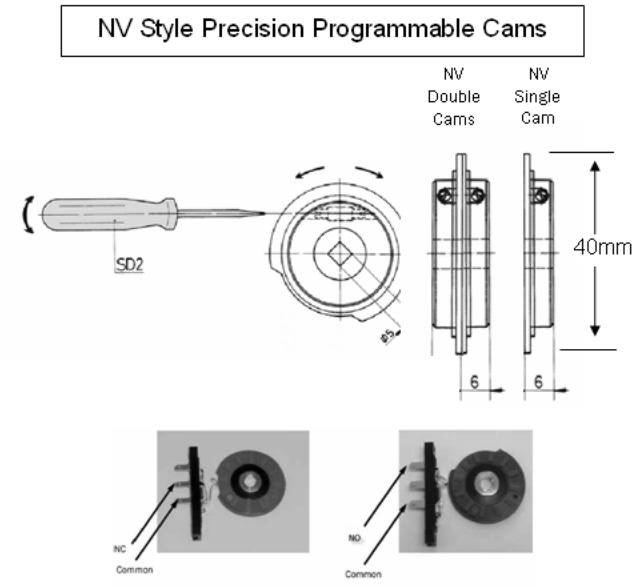
Cam Settings (NV Series)

NProgramming the switching profile is done with the SD2 cam programming tool. The general technique is shown in the diagram to the right.

The NV series cams incorporate a precision worm drive that controls angular position of cam. This fine adjustment can only turn the cam over a limited range. It may be necessary to rotate the input shaft for full range of adjustment.

Single Cam (20^0)
NV4101.20

Double Cam
NV4201.180



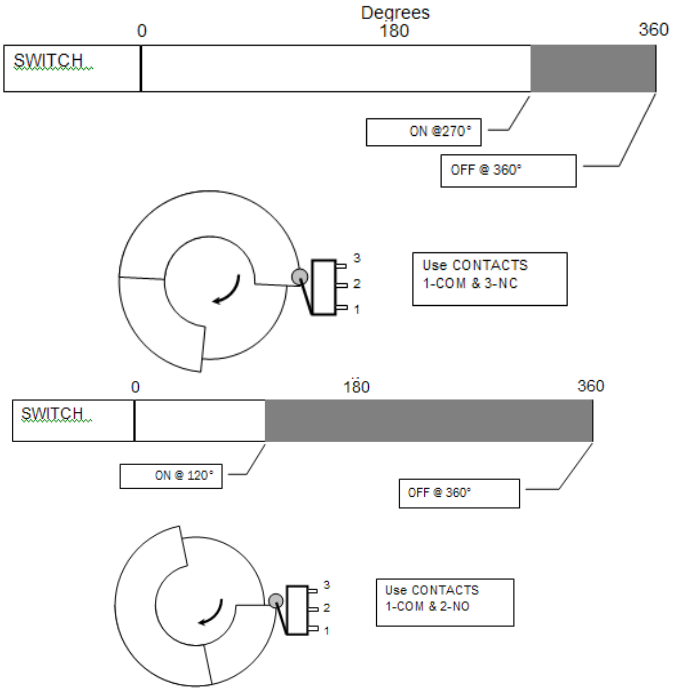
Shown above: Interaction of cam programming and switch operation. Type NK4201 standard cams shown for illustration purposes only. NV cams are functionally equivalent but are based on an internal worm gear mechanism allowing for very fine adjustment.

Cam Programming (General)

Single cams can produce only a fixed single pulse 20° wide if switch channel uses NV4101.20 single cams.

Double cams can be programmed for a switching profile of 4° to 356°. Due to the design of the cam, switches cannot be disengaged for more than 180°.

If the system requires that the switch does not make contact for more than 180°, the normally closed (NC) contact must be wired. For programs greater than 180°, the NO contact is used. The right-hand illustrations depict these two cam programming cases. It is always helpful to diagram the desired switch settings before wiring and programming the cams.



Cam Programming Guidance for Replacing Thomson Micron Rotary Limit Switches

Micronor Limit Switches use a "universal" double cam design. Thus, the Micronor double cam limit switch replaces 3 types of Thomson Micron limit switches (A,B and I). To connect to the proper switch contacts and set the cams properly, you will need to know the type of switch used on each channel of the original Micron unit.

- **Type A** - Forced actuation in in CW rotation of Input, reset on CCW rotation past set point
- **Type B** - Forced actuation in in CCW rotation of Input, reset on CW rotation past set point
- **Type I** - Impulse at set point

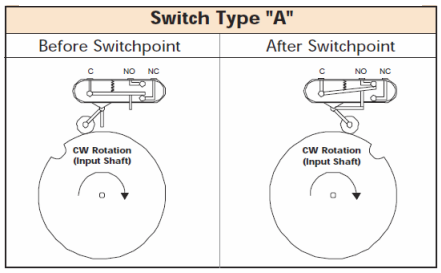
<u>How To Program Micronor Cams</u>

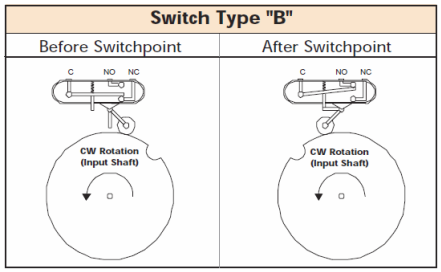
For Type A operation where On (closed contacts) period <180°, use COM and NO switch contacts and program "valley" of switch "On" at Set Point and "Off" at about 355°. If On period >180°, then use COM and NC contacts and program "peak" of switch "On" at Set Point and "Off at 355°.

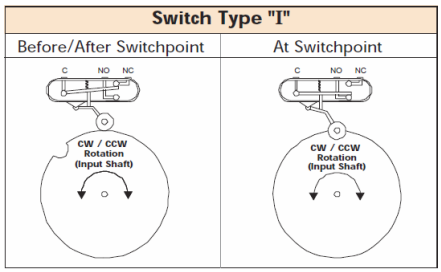
For Type B operation where On (closed contacts) period <180°, use COM and NO switch contacts and program "valley" of switch "On" at ~355° and "Off" at Set Point. If On period >180°, then use COM and NC contacts and program "peak" of switch "On" at Set Point and "Off at 355°.

For Type I operation (assume impulse to be about 6° wide, use COM and NO switch contacts and program "valley" of switch "On" at Set Point and "Off" at SetPoint+6°.

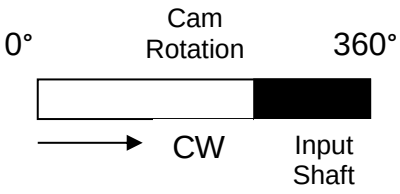
THOMSON MICRON Switch Types

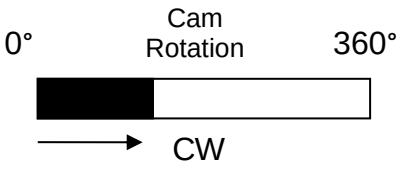


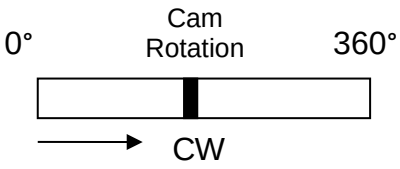




Switch Activation Profile







Denotes Closed Contact

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Please Sign to Approve:

Name	Compartment	Date / Location
	CPI Malibu Division (Customer)	
	Micronor Inc. (Sales)	