

DESCRIPTION
Honeywell's MICRO SWITCH Compact Limit Switches, NGC Series, are a configurable platform of medium-duty switches that allow the customer to choose SPDT (single pole, double throw) or DPDT (double pole, double throw) circuitry while maintaining the same housing and mounting footprint throughout the NGC Series. MICRO SWITCH NGC Series can be configured more than 380,000 ways, carries global approvals, and are sealed to IP67 for potential use in indoor and outdoor applications.

## VALUE TO CUSTOMERS

- Cost-effective: Provides a single source for a compact SPDT and DPDT limit switch, which can help minimize the Original Equipment Manufacturer's sourcing expenses by simplifying their supply chain
- Versatile: Durable packaging allows for use in many harsh indoor or outdoor applications, providing performance confidence
- Configurable: Allows design engineers to standardize on a single footprint while meeting a variety of electrical requirements
- Application support: Customers with a global footprint can count on Honeywell for regional support for new applications and troubleshooting


## FEATURES

- SPDT or DPDT configurable circuitry
- Snap-action, positive-break contacts
- Silver alloy and gold-plated contact options
- UL, CE, cUL, and CCC approvals
- Conforms to IEC 60947-5-1, IEC 61373, EN45545-2 (metal variants with M12 connectors only)
- NEMA 1, 4, 12, 13; IP67 sealing
- Metal and plastic housing options
- Low and high temperature variants
- Cable and connector terminations
- Variety of heads and actuator levers


## POTENTIAL INDUSTRIAL APPLICATIONS

- Boom position detection
- Elevators and escalators
- Machine tools
- Mobile light towers
- Packaging equipment
- Rail doors
- Scissor lifts


## DIFFERENTIATION

- With two times the vibration ( 10 g ) and shock ( 50 g ) ratings of comparable competitive devices, the NGC Series can be implemented in the harshest of environmental conditions, providing enhanced reliability and repeatability
- Broader current capacity (10 A) than comparable devices allows for potential use in a wider set of applications, making platform standardization an easier task


## PORTFOLIO

The NGC Series joins the 14CE, 914CE, LS, and E6/V6 Series of Medium-Duty Limit Switches. Honeywell also offers a portfolio of MICRO SWITCH Heavy-Duty Limit Switches and Global Limit Switches.

## MICRO SWITCH Compact Limit Switches, NGC Series

Table 1. Specifications

| Characteristic | Parameter |
| :---: | :---: |
| Description | compact, medium-duty limit switches |
| Actuators | Side Rotary Configurations <br> - Side rotary <br> - Side rotary (short) <br> - Side rotary with adjustable length roller lever <br> - Reversed side rotary (short) <br> - Reversed side rotary with adjustable length roller lever <br> Plunger Configurations <br> - Pin plunger (standard $4,8 \mathrm{~mm}[0.19 \mathrm{in}]$ and long $7,4 \mathrm{~mm}$ [0.29 in]) <br> - Roller plunger (standard $15,3 \mathrm{~mm}$ [ 0.60 in ] and long $17,85 \mathrm{~mm}$ [ 0.70 in ]) <br> - Cross roller plunger (standard $15,3 \mathrm{~mm}[0.60$ in ] and long $17,85 \mathrm{~mm}$ [ 0.70 in ) <br> - Pin plunger with boot seal <br> - Panel-mount pin plunger <br> - Panel-mount roller plunger <br> - Panel-mount cross roller plunger <br> - Panel-mount pin plunger with boot seal <br> - Top roller lever arm |
| Terminations (SPDT) | Normal cable (refer to table 4) PUR cable (refer to table 4) Special application cable (refer to table 4) Railway cable (refer to table 4) Connector, 4-pin male, M12 thread Connector, 5 -pin male, M12 thread |
| Terminations (DPDT) | Normal cable (refer to table 4) PUR cable (refer to table 4) Special application cable (refer to table 4) Railway cable (refer to table 4) |
| Material approval standard | (only applicable for product with non-halogen cable) DIN5510-2-2009 (flammability rating: S3; smoke rating: > SRI; welt rating: ST2; toxic gas rating: $\mathrm{FED}(\mathrm{TZUL}=15 \mathrm{~min})<1)$ |
| Switching options | SPDT, DPDT; snap action contacts (1NC/1NO, 2NC/2NO) |
| Sealing | NEMA 1, 4, 12, 13; IP67 per IEC 60529 suitable for outdoor applications |
| Contacts | snap action, positive break standard: silver alloy; gold: gold-plated |
| Operating temperature | $-25^{\circ} \mathrm{C}$ to $75^{\circ} \mathrm{C}$ [ $-13^{\circ} \mathrm{F}$ to $\left.167^{\circ} \mathrm{F}\right]$ (for extended operating temperature options, see Table 3) |
| Storage temperature | $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}\left[-40^{\circ} \mathrm{F}\right.$ to $\left.185{ }^{\circ} \mathrm{F}\right]$ |
| Mechanical endurance | $1 \mathrm{NC} / 1 \mathrm{NO}: 5 \mathrm{M}$ cycles min. at 120 CPM <br> 2NC/2NO: 5 M cycles min. at 60 CPM - for AgNi contacts only |
| Electrical life | see table 3 |
| Contact bounce limit | 50 msec max., use proper signal filter accordingly |
| Thermal current | 1NC/1NO: $10 \mathrm{~A} ; 2 \mathrm{NC} / 2 \mathrm{NO}: 5 \mathrm{~A}$ |
| Rated insulation voltage (Ui) | $1 \mathrm{NC} / 1 \mathrm{NO}: 400 \mathrm{~V}$ as per IEC 60947-5-1 2NC/2NO: 250 V as per IEC 60947-5-1 |
| Dielectric strength | 1890 Vac for metal housing; 2890 Vac for plastic housing 1500 Vac between all terminals to enclsoure after durability test |
| Impulse voltage | 1NC/1NO: 2500 Vdc as per IEC 60947-5-1 2NC/2NO: 1500 Vac as per IEC 60947-5-1 |
| Pollution degree | 3 (III) |
| Humidity | $95 \% \mathrm{RH}$ max. |
| Operating speed | $0,3 \mathrm{~mm} / \mathrm{s}$ to $2 \mathrm{~m} / \mathrm{s}$ |
| Switching frequency | 1NC/1NO: 120 CPM max. 2NC/2NO: 60 CPM max. |
| Shock | 50 g for $11 \mu$ s as per IEC 60068-2-27; railway application, per IEC 61373 Class I Car B type |
| Vibration | 10 g as per IEC 60068-2-6, frequency range 10 Hz to 500 Hz ; railway application per IEC 61373 Class I Car B type |
| Approvals | UL (UL508), cUL, CE (IEC 60947-5-1), CCC (GB14048.5-2008) |
| Conforming to standards | IEC 60947-5-1, IEC 61373, EN45545-2 HL 3 (metal variants with M12 connectors only) |

Table 2．Electrical Rating and Utilization Category

| SPDT 1NO／1NC |  |  |  | DPDT 2NO／2NC |  |  |  | SPDT and DPDT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ac |  | dc |  | ac |  | dc |  | gold－plated contacts |
| $\begin{aligned} & \text { A300 Ue } \\ & \text { (volts) } \end{aligned}$ | AC15 le （amps） | $\begin{aligned} & \text { Q300 Ue } \\ & \text { (volts) } \end{aligned}$ | $\begin{aligned} & \begin{array}{l} \text { DC13 Ie } \\ \text { (amps) } \\ \hline \end{array} ⿳ ⺈ ⿴ 囗 十 一 \text { ( } \end{aligned}$ | $\begin{gathered} \text { C300 Ue } \\ \text { (volts) } \end{gathered}$ | AC15 le （amps） | $\begin{aligned} & \text { R300 Ue } \\ & \text { (volts } \end{aligned}$ | DC13 le <br> （amps） |  |
| 120 | 6 | 125 | 0.55 | 240 | 0.75 | 250 | 0.1 | 30 mVdc |
| 240 | 3 | 250 | 0.27 |  |  |  |  | 10 maresistive |
| Per IEC 60947－5－1 and UL 508 |  |  |  |  |  |  |  |  |

Table 3．Electgrical Life Expectancy at Illustrated Load

| Switch Type | Voltage | Current | Life |
| :--- | :--- | :--- | :--- |
| SPDT（01）silver contact ${ }^{1}$ | 110 Vdc | 1 A | 500,000 |
| DPDT（24）silver contact $^{1}$ | 110 Vdc | 1 A | 500,000 |
| DPDT（24）silver contact ${ }^{2}$ | 24 Vdc | 15 mA | $1,500,000$ |
| DPDT（32）gold－plated contact ${ }^{2}$ | 30 mVdc | 10 mA | 50,000 |
| SPDT（07）gold－plated contact ${ }^{2}$ | 30 mVdc | 10 mA | 50,000 |

${ }^{1} 15$ cycles／minute max．Applicable to NC circuit only．All loads resistive．Life mentioned are min．life．
${ }^{2} 30$ cycles／minute max．All loads resistive．Life mentioned are min．life．

Figure 1．Product Nomenclature and Order Guide


Table 4. Connector/Cable Type Temperature Options ${ }^{10,11}$

| Connector/Cable <br> type | Standard NGC Series <br> (with modification code, none) |  | High Temp NGC Series <br> (with modification code, H85) |  | Low Temp NGC Series <br> (with modification code, L40) |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | Tmin | Tmax | Tmin | Tmax | Tmin | Tmax |
| $\mathbf{A}$ | $-25^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ | - | - | - | - |
| $\mathbf{B}$ | $-25^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ | $85^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ |
| $\mathbf{D}$ | $-25^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ | - | - | - | - |
| $\mathbf{R}$ | $-25^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ | $85^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ |
| $\mathbf{N}$ | $-25^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ | $85^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ |
| $\mathbf{P}$ | $-25^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ | $-25^{\circ} \mathrm{C}$ | $85^{\circ} \mathrm{C}$ | $-40^{\circ} \mathrm{C}$ | $75^{\circ} \mathrm{C}$ |

Figure 2. Connector Dimensions and Pin-Out Identification


Table 5. Cable Descriptions

| Listing | Cable Description |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Length (L) min. | Jacket strip length (A) | Insulation strip length (B) | $\begin{aligned} & \text { NGCP*01* } \\ & \text { NGCP*07* } \\ & \text { (01 or 07 } \\ & \text { switch type) } \end{aligned}$ | $\begin{aligned} & \text { NGCM*01* } \\ & \text { NGCM*07* } \\ & \text { (01 or } 07 \\ & \text { switch type) } \end{aligned}$ | $\begin{gathered} \text { NGCP*24* } \\ \text { NGCP*32* } \\ \text { (24 or 32 } \\ \text { switch type) } \end{gathered}$ | $\begin{aligned} & \text { NGCM*24* } \\ & \text { NGCM*32* } \\ & \text { (24 or 32 } \\ & \text { switch type) } \end{aligned}$ |
| NGC*00* | no cable (internal connector) |  |  |  |  |  |  |
| NGC*02* | $0,25 \mathrm{~m}$ [9.8 in] | 23 mm [0.91 in] | 5 mm [0.20 in] | $\begin{gathered} 18 \text { AWG or } \\ 4 \times 0,75 \mathrm{~mm}^{2} \end{gathered}$ | $\begin{gathered} 18 \text { AWG or } \\ 5 \times 0,75 \mathrm{~mm}^{2} \end{gathered}$ | $\begin{aligned} & 20 \mathrm{AWG} \text { or } \\ & 8 \times 0,5 \mathrm{~mm}^{2} \end{aligned}$ | $\begin{aligned} & 20 \mathrm{AWG} \text { or } \\ & 9 \times 0,5 \mathrm{~mm}^{2} \end{aligned}$ |
| NGC*05* | 0,5 m [19,7] | 32 mm [1.26] | 17 mm [0.67 in] |  |  |  |  |
| NGC*07* | 0,7 m [27.6 in] | 32 mm [1.26] | 17 mm [0.67 in] |  |  |  |  |
| NGC*10* | 1 m [39.37 in] | 23 mm [0.91 in] | 5 mm [0.20 in] |  |  |  |  |
| NGC*15* | $1,5 \mathrm{~m}$ [59 in] | 23 mm [0.91 in] | 5 mm [0.20 in] |  |  |  |  |
| NGC*20* | 2 m | 23 mm [0.91 in] | 5 mm [0.20 in] |  |  |  |  |
| NGC*30* | $3 \mathrm{~m}[9.84 \mathrm{ft}]$ | 23 mm [0.91 in] | 5 mm [0.20 in] |  |  |  |  |
| NGC*40* | $4 \mathrm{~m}[13.12 \mathrm{ft}]$ | 23 mm [0.91 in] | 5 mm [0.20 in] |  |  |  |  |
| NGC*50* | $5 \mathrm{~m}[16.4 \mathrm{ft}]$ | 23 mm [0.91 in] | 5 mm [0.20 in] |  |  |  |  |

## MICRO SWITCH Compact Limit Switches, NGC Series

Figure 3. Side Rotary A1A/A1B Dimensions


Figure 5. Side Rotary A2A/A2B Dimensions


Type A2A/A2B • Side Rotary with Adjustable Length Roller Lever

Figure 4. Side Rotary A6A/A6B Dimensions


Figure 6. Side Rotary A6C/A6D Dimensions


Type A6C/A6D • Reversed Side Rotary (Short)

Figure 7. Side Rotary A2C/A2D Dimensions


[^0]Table 5. Side Rotary Operating Characteristics

| Actuation | Catalog Listing | Connector/ <br> Cable Exit | Switch Type | Circuit Diagram | Bar Charts | Differential Travel max. | Operating Force/ Torque max. | Release Force/ Torque max. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Side <br> Rotary | NGCP*****X01A** | A | 01 |  |  | $15^{\circ}$ | $\begin{gathered} 18 \mathrm{Ncm} \\ {[1.59 \mathrm{in}-\mathrm{lb}]} \end{gathered}$ | $\begin{gathered} 2,5 \mathrm{Ncm} \\ {[0.22} \\ \text { in-lb] } \end{gathered}$ |
|  | NGCP*****X01A** | B |  |  |  |  |  |  |
|  | NGCP*****X01A** | D |  |  |  |  |  |  |
|  | NGCP***** 0 7A** | A | 07 |  |  |  |  |  |
|  | NGCP*****X07A** | B |  |  |  |  |  |  |
|  | NGCP*****X07A** | D |  |  | $21-22{ }^{0^{\circ} \quad 25^{\circ} \quad 45^{\circ} 65^{\circ}}$ |  |  |  |
|  | NGCP*****X01A** | N | 01 |  | $13-14$ |  |  |  |
|  | NGCP*****X07A** | N | 07 |  |  |  |  |  |
|  | NGCM*****X01A** | A | 01 |  | $13-14$ |  |  |  |
|  | NGCM*****X01A** | B |  |  |  |  |  |  |
|  | NGCM ${ }^{* * * * * X 01 A * * ~}$ | D |  |  | Contact Closed |  |  |  |
|  | NGCM ${ }^{* * * * *} \times 07 A^{* *}$ | A | 07 |  | * Positive Opening |  |  |  |
|  | NGCM*****X07A** | B |  |  |  |  |  |  |
|  | NGCM*****X07A** | D |  |  |  |  |  |  |
|  | NGCM*****X01A** | P | O1 |  |  |  |  |  |
|  | NGCM ${ }^{* * * * * X 07 A * * ~}$ | P | 07 |  |  |  |  |  |
|  | NGCP***** $244 A^{* *}$ | A | 24 |  |  | $16.5{ }^{\circ}$ | $\begin{gathered} 17 \mathrm{Ncm} \\ {[1.5 \mathrm{in}-\mathrm{lb}]} \end{gathered}$ | $\begin{gathered} 2,1 \mathrm{Ncm} \\ {[0.19} \\ \text { in-lb] } \end{gathered}$ |
|  | NGCP***** $244 A^{* *}$ | B |  |  |  |  |  |  |
|  | NGCP***** $244 A^{* *}$ | D |  |  | White-Violet Gray-Black $\longrightarrow$ |  |  |  |
|  | NGCP***** $332 A^{* *}$ | A | 32 |  | Brown-Red Orange-Blue |  |  |  |
|  | NGCP***** $322^{* *}$ | B |  |  | $D T \rightarrow-$ |  |  |  |
|  | NGCP***** $\times 32 A^{* *}$ | D |  |  | White-Violet Gray-Black |  |  |  |
|  | NGCM ${ }^{* * * * *} \times 24 A^{* *}$ | A | 24 | BlueRedBlackViolet |  |  |  |  |
|  | NGCM ${ }^{* * * * *} \times 24 A^{* *}$ | B |  |  | Contact Closed Contact OpenPositive Opening |  |  |  |
|  | NGCM***** $\times 24 A^{* *}$ | D |  |  |  |  |  |  |
|  | NGCM ${ }^{* * * * *} \times 32 A^{* *}$ | A | 32 |  |  |  |  |  |
|  | NGCM***** $\times 32 A^{* *}$ | B |  |  |  |  |  |  |
|  | NGCM***** $\times 32 A^{* *}$ | D |  |  |  |  |  |  |



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## How to read and understand the bar chart information

The following example relates to a unit which has a snap action basic and which has a roller pin plunger actuator. Follow the black arrows and the black strip on the chart. The black strip indicates that there is a circuit between the terminals whose numbers are shown on the left and when white there is no circuit.

Look at Figures A and B as examples. Actuator type used for test is the linear Cam travel type (b) shown left. The start point is at the arrow marked "A" (See fig. B). This shows the free position to be 5.3 mm from the vertical center line of the unit. At this stage there is a circuit between the terminals 21-22 but no circuit between terminals 13-14. The unit can be actuated until it reaches the operating position which is $10,5 \mathrm{~mm}$ from the center line - a travel distance of 10,5 $-5,3=5,2 \mathrm{~mm}$ from the free position. At this point the circuit arrangement changes - no circuit between 21-22 but making a circuit between 13-14. If, however, the contacts of terminals 21-22 weld together and will not separate, a mechanical safety feature will take effect if the switch is travelled past the point from which positive opening is assured, $13,9 \mathrm{~mm}$. As the switch returns it reaches the release position at $8,9 \mathrm{~mm}$ from the center line. The circuit will change back to the original state and the difference between the operating position and the release position gives what is known as the differential travel i.e. $10,5-8,9=1,6 \mathrm{~mm}$. The asterisk (*) indicates the point from which the positive opening is assured.

## MICRO SWITCH Compact Limit Switches, NGC Series

Figure 8. Pin Plunger B \& D Dimensions


NGC_B | FP 19,8 mm; TT 15,9 mm NGC_D | FP 22,4 mm; TT 18,5 mm Pin Plunger

Figure 11. Pin Plunger with Boot Seal M Dimensions


NGC_M | FP $32,3 \mathrm{~mm}$; TT $28,4 \mathrm{~mm}$ Pin Plunger with Boot Seal

Figure 14. Panel-Mount Cross Roller Plunger Q Dimensions


NGC_Q | FP 47,5 mm; TT 43,6 mm Panel-Mount Cross Roller Plunger

Figure 9. Roller Plunger C \& S Dimensions


NGC_C|FP 30,3 mm; TT 26,4 mm NGC_S IFP 32,85 mm; TT 28,95 mm Roller Plunger

Figure 12. Panel-Mount PIn Plunger N Dimensions


NGC_N | FP $36,5 \mathrm{~mm}$; TT $32,6 \mathrm{~mm}$ Panel Mount Pin Plunger

Figure 15. Panel-Mount PIn Plunger With Boot Seal R Dimensions


NGC_R | FP 47,5 mm; TT 43,6 mm Panel-Mount Pin Plunger with Boot Seal

Figure 10. Cross Roller Plunger L \& T Dimensions


NGC_L | FP $30,3 \mathrm{~mm}$; TT $26,4 \mathrm{~mm}$ NGC_T I FP $32,85 \mathrm{~mm}$; TT $28,95 \mathrm{~mm}$ Cross Roller Plunger

Figure 13. Panel-Mount Roller


NGC_P | FP 47,5 mm; TT 43,6 mm Panel-Mount Roller Plunger

Figure 16. Top Roller Lever Arm J Dimensions


NGC_J | TT 33,3 mm Top Roller Lever Arm

## MICRO SWITCH Compact Limit Switches, NGC Series

Figure 17. Wedge Actuation


Wedge passed the roller at Total Travel Position.


Figure 18. Final Installation Check at TTP


NOTE: Strictly adhere to installation instruction mentioned in Figures 1 to 18. Failure to comply with these could result in a functional issue.

Table 6. Plunger Operating Characteristics

| Actuation | Catalog Listing |  | $\begin{aligned} & 0 \\ & \stackrel{0}{\lambda} \\ & \frac{c}{U} \\ & \vdots \\ & \vdots \end{aligned}$ | Circuit Diagram | Bar Charts | Differential Travel max. | Operating Force/ Torque max. | Re- <br> lease Force/ Torque max. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Plung- <br> er <br> Head | NGCP*****X01 B/C/D/L/M/N/P/Q/R/S/T | A | 01 |  |  | $\begin{gathered} 1,2 \mathrm{~mm} \\ {[0.047} \\ \mathrm{in}] \end{gathered}$ | $\begin{gathered} 11 \\ {[2.4} \end{gathered}$ | $\begin{gathered} 3 \mathrm{~N} \\ {[0.67} \end{gathered}$ |
|  | NGCP*****X01 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCP*****X01 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  |  |
|  | NGCP*****X07 B/C/D/L/M/N/P/Q/R/S/T | A | 07 |  |  |  |  |  |
|  | NGCP*****X07 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCP*****X07 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  |  |
|  | NGCP*****X01 B/C/D/L/M/N/P/Q/R/S/T | N | 01 |  |  |  |  |  |
|  | NGCP*****X07 B/C/D/L/M/N/P/Q/R/S/T | N | 07 |  |  |  |  |  |
|  | NGCM*****X01 B/C/D/L/M/N/P/Q/R/S/T | A | 01 |  |  |  |  |  |
|  | NGCM*****X01 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCM*****X01 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  |  |
|  | NGCM*****X07 B/C/D/L/M/N/P/Q/R/S/T | A | 07 |  |  |  |  |  |
|  | NGCM*****X07 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCM*****X07 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  |  |
|  | NGCM*****XO1 B/C/D/L/M/N/P/Q/R/S/T | P | 01 |  |  |  |  |  |
|  | NGCP*****X07 B/C/D/L/M/N/P/Q/R/S/T | P | 07 |  |  |  |  |  |
|  | NGCP***** 24 B/C/D/L/M/N/P/Q/R/S/T | A | 24 |  |  | $\begin{gathered} 1,4 \mathrm{~mm} \\ {[0.051} \\ \mathrm{lb}] \end{gathered}$ | $\begin{gathered} 9,5 \mathrm{~N} \\ \text { [2.14 } \\ \text { lb] } \end{gathered}$ |  |
|  | NGCP*****×24 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCP***** 24 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  |  |
|  | NGCP***** 32 B/C/D/L/M/N/P/Q/R/S/T | A | 32 |  |  |  |  |  |
|  | NGCP***** 32 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCP*****X32 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  | $\begin{aligned} & 2,2 \mathrm{~N} \\ & {[0.49} \end{aligned}$ |
|  | NGCM ${ }^{* * * * *} \times 24 \mathrm{~B} / \mathrm{C} / \mathrm{D} / \mathrm{L} / \mathrm{M} / \mathrm{N} / \mathrm{P} / \mathrm{Q} / \mathrm{R} / \mathrm{S} / \mathrm{T}$ | A | 24 |  |  |  |  | lb] |
|  | NGCM***** 24 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCM*****×24 B/C/D/L/M/N/P/Q/R/S/T | D |  |  |  |  |  |  |
|  | NGCM***** $332 \mathrm{~B} / \mathrm{C} / \mathrm{D} / \mathrm{L} / \mathrm{M} / \mathrm{N} / \mathrm{P} / \mathrm{Q} / \mathrm{R} / \mathrm{S} / \mathrm{T}$ | A | 32 |  |  |  |  |  |
|  | NGCM*****X32 B/C/D/L/M/N/P/Q/R/S/T | B |  |  |  |  |  |  |
|  | NGCM***** $\times 32 \mathrm{~B} / \mathrm{C} / \mathrm{D} / \mathrm{L} / \mathrm{M} / \mathrm{N} / \mathrm{P} / \mathrm{Q} / \mathrm{R} / \mathrm{S} / \mathrm{T}$ | D |  |  |  |  |  |  |

Table 7. Top Roller Arm Operating Characteristics, Head Type J

| Actuation | Catalog Listing |  |  | Circuit Diagram | Bar Charts | Differential Travel max. | Operating Force/ Torque max. | Release Force/ Torque max. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Top Roller Arm | NGCP*****X01 J | A | O1 |  |  | $\begin{gathered} 4 \mathrm{~mm} \\ {[0.157 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 5,5 \mathrm{~N} \\ {[1.24 \mathrm{lb}]} \end{gathered}$ | $\begin{gathered} 1,2 \mathrm{~N} \\ {[0.27 \mathrm{lb}]} \end{gathered}$ |
|  | NGCP*****X01 J | B |  |  |  |  |  |  |
|  | NGCP*****X01 J | D |  |  |  |  |  |  |
|  | NGCP*****X07 J | A | 07 |  |  |  |  |  |
|  | NGCP*****X07 J | B |  |  |  |  |  |  |
|  | NGCP*****X07 J | D |  |  |  |  |  |  |
|  | NGCP*****X01 J | N | O1 |  |  |  |  |  |
|  | NGCP*****X07 J | N | 07 |  | 6,8 $\frac{1}{\square}$ |  |  |  |
|  | NGCM*****X01 J | A | 01 |  |  |  |  |  |
|  | NGCM*****X01 J | B |  |  |  |  |  |  |
|  | NGCM*****X01 J | D |  |  |  |  |  |  |
|  | NGCM*****X07 J | A | 07 |  |  |  |  |  |
|  | NGCM*****X07 J | B |  |  |  |  |  |  |
|  | NGCM*****X07 J | D |  |  |  |  |  |  |
|  | NGCM******01 J | P | O1 |  |  |  |  |  |
|  | NGCP*****X07 J | P | 07 |  |  |  |  |  |
|  | NGCP*****X24 J | A | 24 |  |  | $\begin{gathered} 4,3 \mathrm{~mm} \\ {[0.169 \mathrm{in}]} \end{gathered}$ | $\begin{gathered} 4,5 \mathrm{~N} \\ {[1.01 \mathrm{lb}]} \end{gathered}$ | $\begin{gathered} 1,2 \mathrm{~N} \\ {[0.27 \mathrm{lb}]} \end{gathered}$ |
|  | NGCP*****X24 J | B |  |  |  |  |  |  |
|  | NGCP***** 2 2 J | D |  |  |  |  |  |  |
|  | NGCP*****X32 J | A | 32 |  |  |  |  |  |
|  | NGCP*****X32 J | B |  |  |  |  |  |  |
|  | NGCP*****X32 J | D |  |  |  |  |  |  |
|  | NGCM*****X24 J | A | 24 |  |  |  |  |  |
|  | NGCM******24 J | B |  |  |  |  |  |  |
|  | NGCM***** 24 J | D |  |  |  |  |  |  |
|  | NGCM*****X32 J | A | 32 |  |  |  |  |  |
|  | NGCM*****X32 J | B |  |  |  |  |  |  |
|  | NGCM*****X32 J | D |  |  |  |  |  |  |

## ADDITIONAL MATERIALS

The following associated literature is available on the Honeywell web site at sensing.honeywell.com:

- Product line guide
- Product part listing/nomenclature tree
- Product range guide
- Application note


## Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

## WARNING <br> IMPROPER INSTALLATION

- Consult with local safety agencies and their requirements when designing a machine-control link, interface, and all control elements that affect safety.
- Strictly adhere to all installation instructions.

Failure to comply with these instructions could result in death or serious injury.

## $\triangle$ WARNING IMPROPER OPERATION

- For safety-related applications, always use normally closed (NC) contact. Normally open (NO) contact of a second switch can be used to achieve redundancy.
- Ensure that the switch actuator achieves sufficient travel for positive opening of normally closed (NC) contact to occur.
Failure to comply with these instructions could result in death or serious injury.


## WARNING MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.
Failure to comply with these instructions could result in death or serious injury.


## For more information

Honeywell Sensing and Internet of Things services its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or the nearest Authorized Distributor, visit sensing.honeywell.com or call:

| Asia Pacific | $+656355-2828$ |
| :--- | :--- |
| Europe | +441698481481 |
| USA/Canada | $+1-800-537-6945$ |

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[^0]:    Type A2C/A2D • Reversed Side Rotary with Adjustable Length Roller Lever

