# CTI ELECTRONICS
An Affiliate of **ELECTRO SWITCH**

# KIF9000-NX Industrial Keyboard

## NEMA 4X (IP66) INDUSTRIAL KEYBOARD WITH INDUSTRIAL MOUSE™



• Shown above KIF90U1-N2 keyboard with Industrial Mouse™

## KIF9000-NX STANDARD FEATURES

• NEMA 4 / 4X (IP66) sealed

• Standard Operating Temperature -40°C to 80°C (-40°F to 176°F)

• High reliability and durability (MTBF 100,000+ hours,
  10,000,000+ deflections)

• Key contacts are comprised of a thick layer of hard gold on PCB
  and hard carbon pills molded into the Silcone Rubber Elastomer

• 2mm Key travel with excellent tactile feedback to operator

• Thermally infused silicone ink into the Elastomer ensures
  long term readability

• SynProof™ coated Elastomer protects from penetration of
  harsh oils and chemicals (optional Parylene coating)

• A thick 0.06" PCB ensures rigidity under pressure and
  protection of electronic components

• PCB layout offers EMI/RFI shielding and Ground Connection (ESD)

• Metal Enclosure is passivated Stainless Steel

• Stainless Steel Threaded Inserts on bottom plate for surface mounting

• 9.5 foot USB Cable with Strain Relief to prevent cable damage.

## KIF9000-NX USB INDUSTRIAL KEYBOARD

CTI's KIF9000-Nx Plug-n-Play Industrial Keyboards are comprised of a durable Printed Circuit Board (PCB), a rubber silicone Elastomer, an Industrial Mouse™ (Joystick Cursor Controller), a metal enclosure, and a USB cable. The PCB is designed for protection against electromagnetic and radio frequency interference as well as electro static discharges. Upon the PCB is a layer of hard plated gold used for the switching contacts of the Keys. Molded under the Key of the Elastomer are four hard carbon pill contacts which provide reliability and durability. This Elastomer features a time tested durometer that provides an ergonomic key stroke with excellent tactile feedback. It also includes a molded special O-Ring which compresses to ensure a watertight seal. In addition, the Elastomer has been treated with a thermally infused silicone ink to create the QWERTY legend and then sealed through CTIs' special formulated flexible polyurethane coating process (Syn-Proof™). Ensuring a watertight seal, these keyboards are encased in the finest grade stainless steel which is passivated.

The NEMA 4 / 4X (IP66) sealed Industrial Keyboard is most suitable for critical applications requiring high durability (10M+ cycles), high reliability (99.999% availability), and/or ensured performance under extreme operating temperatures, exposure to harsh climate conditions, and/or solid and liquid contaminants. It's well protected against high vibration, EMI/RFI signals, bio-hazardous agents, and cleaning solvents. This full-size keyboard with its stainless steel threaded inserts on the bottom plate allows for affixing to a panel or desktop.

These Plug-n-Play Industrial Keyboards are offered to the Systems Integrator or Commercial End User with an assurance of high reliability, long term durability, and performance under harsh conditions. Designed for wash down applications these rugged full-size keyboards are an excellent solution for food processing, paper/pulp processing, paint/chemical processing, iron ore/steel manufacturing facilities, etc. The combined features of the Plug-n-Play Industrial Keyboards meet and/or exceed industry standards specifications.
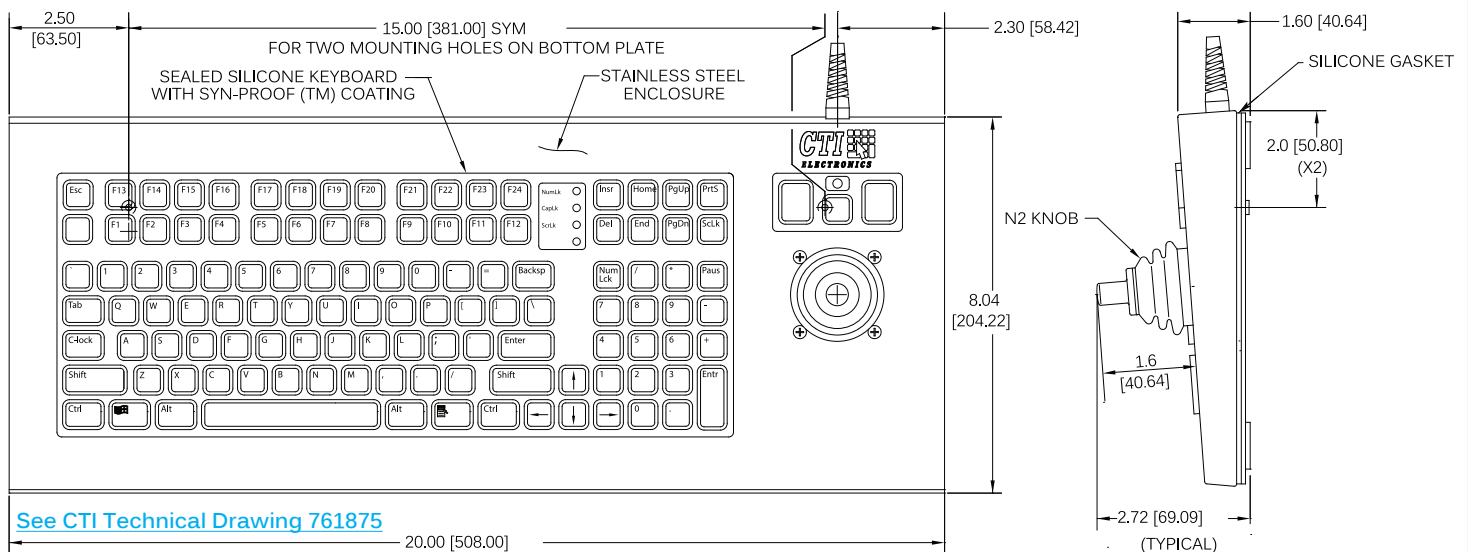
## KIF9000-NX MANUFACTURING OPTIONS

| Wx | Shielded USB Bulkhead Cable (1 Foot to 5 Feet) |
|---|---|
| | *For complete ordering information please refer to Technical Drawings* |

## KIF9000-NX TECHNICAL DRAWINGS

| 761875 | KIF9000-N2 Plug-n-Play Industrial Keyboard with Industrial Mouse™ |
|---|---|
| 761692 | KIF9000-N3 Plug-n-Play Industrial Keyboard with Industrial Mouse™ |

## KIF9000-NX INDUSTRIAL KEYBOARD TECHNICAL DRAWING



2.50 [63.50]

15.00 [381.00] SYM
FOR TWO MOUNTING HOLES ON BOTTOM PLATE

SEALED SILICONE KEYBOARD
WITH SYN-PROOF (TM) COATING

STAINLESS STEEL
ENCLOSURE

2.30 [58.42]

1.60 [40.64]

SILICONE GASKET

2.0 [50.80] (X2)

N2 KNOB

8.04 [204.22]

1.6 [40.64]

See CTI Technical Drawing 761875

20.00 [508.00]

2.72 [69.09]
(TYPICAL)

## F-SERIES JOYSTICK PATENTS

**U.S.A. PATENTS** 4,825,157 | 5,376,946 | 5,532,476

_performance_ _durability_ _reliability_

# KIF9000-NX Industrial Keyboard

## NEMA 4X (IP66) INDUSTRIAL KEYBOARD WITH INDUSTRIAL MOUSE™

**An Affiliate of ELECTRO SWITCH**

## MID-SIZE AND FULL-SIZE INDUSTRIAL KEYBOARD COMPARISON CHART

| | KI8000 | KI9000 | KIF8000 | KIF9000 | KIT2700 |
|---|---|---|---|---|---|
| Dimensions (Inches) | 12.88" x 7.71" x 1.60" | 16.51" x 8.04" x 1.56" | 16.38" x 7.71" x 2.78" | 20.00" x 8.04" x 1.60" | 16.38" x 9.00" x 1.71" |
| Dimensions (mm) | 327.1 x 195.8 x 40.64mm | 419.3 x 204.2 x 39.6mm | 416.5 x 195.83 x 70.61mm | 419.3 x 204.2 x 39.6mm | 416.5 x 228.6 x 43.69mm |
| Stainless Steel \| Oz (kg) | | | | 117 Oz (3.31 kg) | |
| Aluminum \| Oz (kg) | | | 52 Oz (1.47 kg) | | 60.6 Oz (1.71 kg) |
| Mouse Pointer | | | Industrial Mouse™ | Industrial Mouse™ | Industrial Trackball |
| Numeric Keypad | | Yes | | Yes | |
| Function Keys | 12 | 24 | 12 | 24 | 12 |
| Language Options | US QWERTY (Standard) See Technical Drawing for Specific Language Options | | | | |
| Total Keys | 87 Keys | 116 Keys | 87 Keys | 116 Keys | 87 Keys |
| Key Travel | 2mm travel with excellent tactile feedback | | | | |
| Backlighting | | | | | |
| Sealing | NEMA 4X (IP66) | | | | NEMA 12 (IP54) |

## KIF9000-NX SPECIFICATION

| | |
|---|---|
| KIF9000-NX Measurements | **Width:** 20.00" (419.3mm)   **Height:** 8.04" (204.2mm)   **Depth:** 1.60"  (39.6mm)   **Weight:** 117 Oz (3.31 kg) |
| Operating Systems | **Microsoft Windows® Operating System** (Windows XP, Windows 7, Windows 8, Windows 10) |
| | **Mac OS X®** or **Linux OS**  requires compliant USB Device Class Definition for Human Interface Devices 1.11 |
| Standard Driver | **Windows OS USB Composite Driver** (does not allow interrupt of OS boot process for BIOS) |

## KIF9000-NX ELECTRICAL SPECIFICATION

| | |
|---|---|
| MTBF | Greater than 100,000 hours |
| Cabling | Shielded USB Cable (9.5 feet)  (Standard)      Shielded USB Bulkhead Cable Set (W1 - W5) (Optional) |
| Ground Connection | Yes |
| EMI/RFI Shielding | Designed into PCB Layout |
| ESD Protection | 8Kv (Contact), 15Kv (Air) |

## KIF9000-NX MECHANICAL SPECIFICATION

| | | | | | |
|---|---|---|---|---|---|
| Life Expectancy | **Elastomer Keys** 10,000,000+ activations/cycles (hard carbon pills, hard gold plated PCB) | | | | |
| Shock | **Peak Value** 40g (typical) | | **Peak Duration** 11ms | | **Waveform** Half Sine |
| Vibration | **Frequency / Displacement** | | 10-55 Hz @ 0.013 DA | | |
| Joystick Life Expectancy | **X & Y Axes** | | 10,000,000 random deflections | | |
| Joystick MTBF | Greater than 100,000 hours | | | | |
| Joystick Movement | **X & Y Axes (Simultaneous or Non-Simultaneous Movement)** | | Max  +/- 20˚ travel | | |
| Joystick Operational Force | **X & Y Breakout Force** | 140g (Standard) | **X & Y Full Scale Force** | 235g (Standard) | |
| Joystick Shock | **Peak Value** | 30-50g | **Peak Duration** | 11ms | **Waveform** Half Sine |
| Joystick Vibration | **Frequency / Displacement** | | 5-25 Hz / 0.1" | 25-55 Hz / 0.03" | |

## KIF9000-NX ENVIRONMENTAL SPECIFICATION

| | |
|---|---|
| Operating Temperature | -40º to 80º C / -40º to 176º F |
| Storage Temperature | -40º to 80º C / -40º to 176º F |
| Relative Humidity | 100% condensing |
| Sealing Rating | NEMA 4X (IP66) |
| Protection | SynProof™ Coated (Standard) - protection against harsh oils and chemicals |
| | Parylene Coated (Optional) - toughest molecular barrier protection |

## CONFORMANCE / CERTIFICATIONS / COMPLIANCE   subject to manufacturing options applied

| | | |
|---|---|---|
| U.S.A. Standards | U.S. FCC 47 CFR 15 Class A & B | RF Emissions Compliant 8Kv (Contact), 15Kv (Air) |
| | MIL-STD-461F | Radiated Emissions and Susceptibility Conformance |
| | MIL-STD-810G | Protection against humidity, fungus, and salt spray Conformance |
| | MIL-STD-901D | Protection against shock Conformance |
| | MIL-STD-167-1 | Protection against vibration Conformance |
| | MIL-STD-1472G | Human Factors Conformance |
| | MIL-I-45208 | Quality System Conformance |
| | IPC-A-610 II | Acceptability of Electronics Assemblies Certification |
| European Standards | ISO 9001:2008 (Registration No. 74 300 3983) | |
| | "CE" Compliant | |
| | Restriction of Hazardous Substance (RoHS) Directive Compliant | |
| | Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Directive Compliant | |
| International Standards | IEC 61000-4-2 and EN61000-4-2 | ESD 8Kv contact and 15Kv air Conformance |
| | IEC 61000-4-3 and EN61000-4-3 | Radiated Emissions and Susceptibility Conformance |
| | IEC 61000-6-3 and EN61000-6-3 | Electromagnetic Compatibility Conformance |

*performance*

*durability*

*reliability*