

## Crystal 12<sup>®</sup> Sensor for Quartz Crystal Deposition Controllers

### AUTO CRYSTAL SWITCHING MAXIMIZES PRODUCTION TIME

The low-density materials and low deposition rates associated with OLED processes demand extraordinary accuracy and reliability from thin film deposition controllers and sensors. To maintain rate and thickness accuracy, continuous rate control is necessary.

The INFICON Crystal 12 Sensor replaces its crystals automatically without interrupting your process, when partnered with the INFICON Cygnus 2™, IC6, XTC/3 and SQC-310\* thin film deposition controllers. Whenever a crystal becomes unstable or fails, Cygnus 2 signals the Crystal 12 sensor carousel to immediately rotate a new crystal into position, for continuous deposition rate monitoring. To further minimize downtime, crystals can be preloaded into a second optional carousel, which can then be quickly and easily exchanged with the carousel containing the exhausted crystals, minimizing the time the system is open.

#### **MAKE THE MOST OF CRYSTAL 12 WITH CYGNUS 2 THIN FILM DEPOSITION CONTROLLERS**

You will get the greatest benefit from the Crystal 12 sensor when you use it with the INFICON Cygnus 2 thin film deposition controller.

Developed by INFICON—the market leader in thin film instrumentation—Cygnus 2 is the only thin film controller

designed specifically for OLED manufacturing. With its patented ModeLock™ measurement system, Cygnus 2 delivers the most stable thickness measurement and the most precise rate resolution available. Up to six sources can be controlled simultaneously, independently, or in any combination. This means Cygnus 2 can maximize throughput for the most complex, demanding, and unique OLED applications.

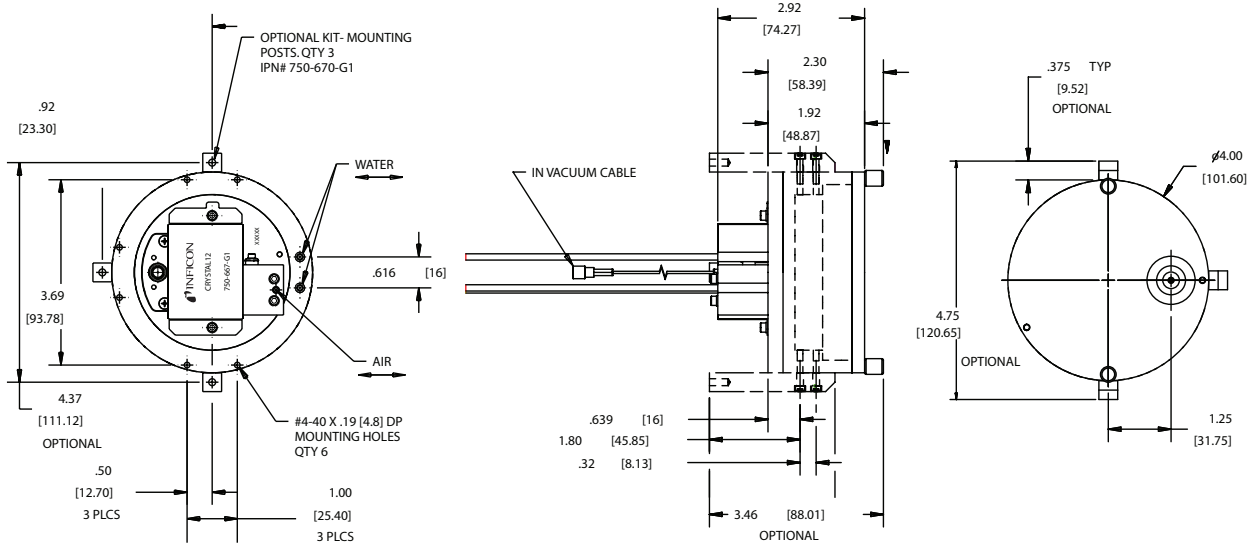
#### **FEATURES AT A GLANCE**

- Holds 12 crystals with robust, automatic switching to maximize process uptime
- Easy-to-remove carousel allows fast replacement of all 12 crystals
- Stable crystal temperature, because crystal switching is pneumatically-driven (competitive units use heat-generating motors)
- Easy-to-remove front deposition shield protects the crystals and carousel from material accumulation, minimizing the need to remove entire sensor for maintenance
- Optional mounting-post kit can be user-modified to accommodate metric hardware

\*Position feedback not available with SQC-310

**SPECIFICATIONS** (For complete specifications refer to the Crystal 12 Datasheet.)

Maximum operating environment temperature	300°C, with minimum water flow
Bakeout temperature	130°C max, without water flow
Minimum recommended water flow	150-200 cc/min., 30°C max
Air pressure for operation	80 to 90 psig (5.5 to 6.1 atm) Special restrictor orifice required (included).



**CONFIGURATION OPTIONS**

**Crystal 12 Sensor**

**Type of sensor (Includes User Manual. Crystals sold separately)**  
 None.....  
 Base unit – Crystal 12 Sensor.....

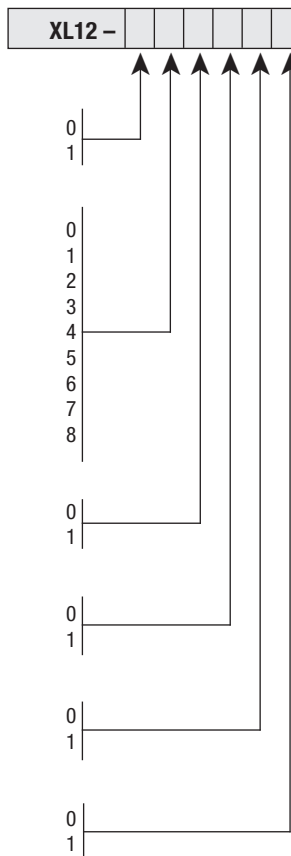
**In-vacuum Cable Assembly Length – See Note 3**  
 None.....  
 30.75 inch (78cm) .....  
 6 inch (15.2cm) .....  
 12 inch (30.5cm).....  
 24 inch (61cm).....  
 36 inch (91.4cm).....  
 48 inch (121.9cm).....  
 60 inch (152.4cm).....  
 72 inch (182.9cm).....

**Crystal Carousel Assembly**  
 One (included in base unit).....  
 Spare Crystal Carousel Assembly.....

**Front Deposition Shield**  
 One (included in base unit).....  
 Spare Front Deposition Shield.....

**Mounting Post with Hardware**  
 None.....  
 Mounting Post Kit.....

**Solenoid Valve - See Note 2**  
 None.....  
 Solenoid Valve.....



**NOTE 1:**  
 Auto Crystal Switch only with IC6, Cygnus 2, XTC/3M, XTC/3S, SQC-310, and SQC-310C.

**NOTE 2:**  
 The Crystal 12 Sensor requires the 750-420-G1 solenoid with orifice installed (IPN 059-0189, included in Crystal 12 ship kit).

**NOTE 3:**  
 All lengths are supported with IC6, Cygnus 2, XTC/3M, and XTC/3S. SQC-310 and SQC-310C support in-vacuum lengths up to 30.75" only.

**NOTE 4:**  
 Position feedback is not available with SQC-310 or SQC-310C.

**Custom parts, special bends and other non-standard parts available – Consult factory**

