



# Electric Tool Changer for Light Automation

## Product Description

The QC-18 is an electrically-actuated Tool Changer that utilizes a 24V DC electric servo motor to drive the locking mechanism. The low-voltage, low-current inputs allow for easy integration into research, educational, aerospace, and mobile robotic applications. Designed for applications where air supply is either not available or not desired, the QC-18 is sized for 18 kg payloads, ideal for changing out end-effectors in compact spaces. The QC-18 also features a patented rotating cam-lock mechanism that results in a compact, strong, and safe locking mechanism. Up to three ATI Utility Modules can be attached to the mounting flats to pass a variety of utilities.

ATI Robotic Tool Changers provide the flexibility to automatically change end-effectors or other peripheral tooling. These Tool Changers are designed to function reliably for millions of cycles at rated load while maintaining extremely high-repeatability. For this reason, the ATI Tool Changer has become the number-one Tool Changer of choice around the world.



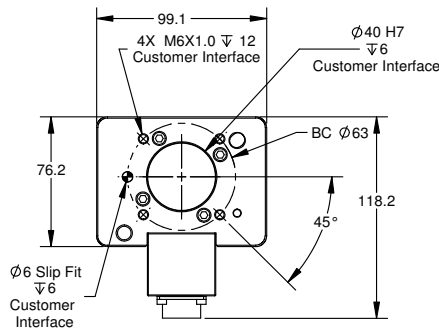
QC-18 Tool-side and Master-side

## Product Features

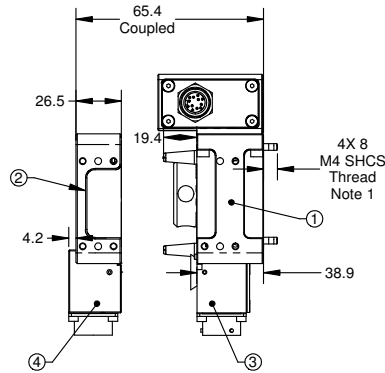
- Integrated Lock/Unlock sensing indicates Lock/Unlock position for safe Coupling/Uncoupling.
- Optional Ready-to-Lock (RTL) sensing available. A 24V DC electric servo motor drives locking mechanism.
- ATI motor controller is integrated directly into the motor module - not a separate unit.

Specifications	Values	Comments
Suggested Payload Limit	40 lbs (18.14 kg)	Higher payloads possible with lower moment
Static Moment Capacity (X, Y)	500 lbf-in (226.79 kg)	
Static Moment Capacity (Z)	690 lbf-in (312.97 kg)	
Positional Repeatability (X, Y,& Z)	0.0006 in (0.015 mm)	Repeatability tested at rated load at over 1 million cycles
Weight (when coupled)	3.92 lb (1.77 kg)	With motor, no other modules
Stack Height When Locked	2.57 in (65.4 mm)	Interface plate required
Body Size (no modules)	5.9 in x 3.0 in (149.3 mm x 76.2 mm)	With motor, no other modules
Maximum Allowable Distance Between Master and Tool Before Locking	.04 in (1 mm)	May vary depending on payload
Sensor Options	Lock, Unlock, RTL	Lock/Unlock sensors integrated into the body
Required Voltage	24VDC	Motor supply voltage
Required Current	300 mA continuous 3 Amps peak during motion	Current draw will vary depending on locking distance and payload
Time to Lock/Unlock	1 second	May vary depending on locking distance and payload
Tool Changer Operating Temperature	- 4°F to 122°F (-20°C-50°C)	

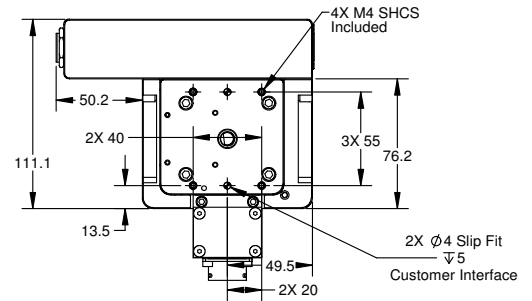
ATI reserves the right to change these specifications.



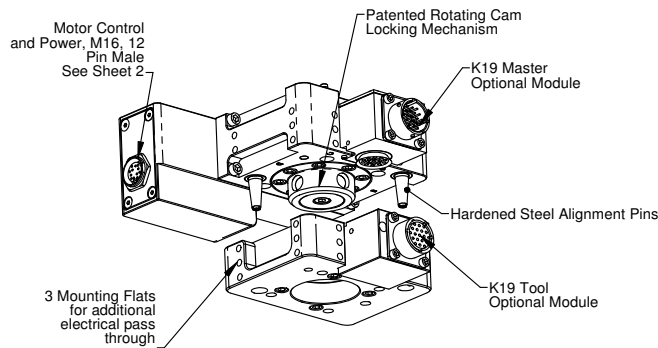
**TOOL SIDE MOUNTING FACE**



**SIDE VIEW UNCOUPLED**



**MASTER SIDE MOUNTING FACE**



- Notes:
1. Available screw engagement.
  2. Lock, Unlock, and RTL sensing included. Features 3 wire, PNP DC Proximity sensors. RTL is pass through.
  3. ATI Motor Controller is integrated into motor housing.
  4. Motor is 24V DC Brushless Servo with hall sensor feedback.

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	9120-018M-2387-0-0-0-SG2	QC-18 Master Assy, w/ 24VDC Motor Module 2387, Integrated Controls, PNP DC Sensors, M5 RTL
2	1	9120-018T-0-0-0-0	QC-18 Tool Base Assembly
3	1	9120-K19-M	9120-K19-M Master Module
4	1	9120-K19-T	9120-K19-T Tool Module

Drawing # 9230-20-7669-03