



**Integrated Drive combined with reliable
Vacuum Capacitors**

Universal Motorized Capacitors

Comet Motorized Capacitors offer the latest integrated drive technology for vacuum capacitors at best price-performance ratio. A single communication protocol for RS232 and RS485 provides flexibility in a wide range of applications.

Motorized Capacitors are the ideal solution for high-precision operation. Besides ensuring highest accuracy, motorized capacitors simplify procurement with an easy-to-install subsystem. The core component of the Universal Motorized Capacitor is a Comet Variable Vacuum Capacitor, mounted with an insulating cover, coupler and stepper-motor. A durable, backlash-free Comet-coupler connects the capacitor to the drive system. Integrated flanges ensure easy mounting in the system. Appropriate high-voltage insulation between the capacitor and the flanges is also included.

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Features

- One driver PCB for new Integrated Drives (ID-400 and ID-1200)
- Same communication Comet protocol RS232 and RS485
- Flexible baud rate between 9.600 and 115.200 Bd
- Connect up to 32 modules in RS485 mode
- Readout of full-step, micro-step and capacitance position
- Capacitance table with higher resolution on request

Benefits

- Improved capacitance positioning accuracy and repeatability (vs UA4)
- Increased capacitance resolution (position control) to 0.01 pF
- Accurate alignment of variable vacuum capacitor and stepper-motor and a durable, backlash-free coupling result in long, consistent lifetime
- Assembled solution for easy installation
- Lower total cost of ownership
- Efficient use of matchbox space



Led by experience. Driven by curiosity.

Product specifications

Supply voltage	+24 VDC
Supply current	$I_p < 1.1 \text{ A}$ (ID-400) $I_p < 2.8 \text{ A}$ (ID-1200)
Full-step angle	1.8°
Motor speed	up to 600 rpm
Micro-stepping	16 micro-steps
Operating temperature	0 – +50 °C
Available interfaces	RS232, RS485
Address range (RS485)	0x21 – 0x40
Baud rate	9.600 – 115.200 Bd



Typical application areas

- Semiconductor
- Display and Flat Panel
- Solar
- MEMS

Motorized Capacitors

Two sizes of integrated drive systems are available for different capacitor series. Some examples:



Visit our website for more information.
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Switzerland (Head Office)

Comet AG
Flamatt

Germany

Comet Yxlon GmbH
Aachen

United States

Comet Technologies USA, Inc.
San Jose/CA

China

Comet Mechanical Equipment
(Shanghai) Co. Ltd., Shanghai

Korea

Comet Technologies
Korea Co., Ltd., Suwon-si

Malaysia

Comet Technologies
Malaysia Sdn Bhd, Penang

Taiwan

Comet Solutions Taiwan Ltd.
Hsinchu

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Integrated drive solutions

Capacitor tuning

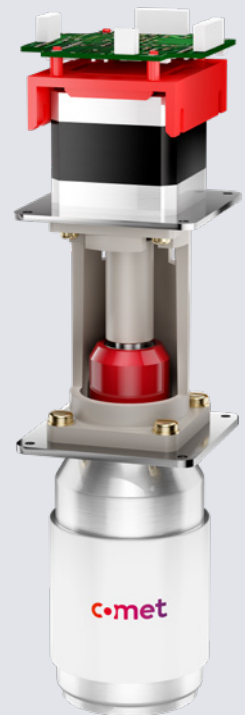
Using a stepper-motor, the capacitance of the variable capacitor can be tuned precisely between user selectable limits.

High-level commands

The module can be controlled from a PC or a control board using high-level commands (RS232, RS485).

The communication protocol allows the execution of the following commands:

- Precise motion control by setting full-step, micro-step or capacitance position
- Set idle and drive current, speed and slave address within allowed range
- Read out of actual full-step, micro-step and capacitance position
- Read out of characteristic capacitance curve (C-Curve)
- Read out of various parameters such as firmware version, serial number and all customer and factory limits
- Comprehensive RX responses (ACK, NAK):
 - ACK for all commands
 - ACK for «movement-started» resp. «movement completed»
 - NAK e.g. check-sum error, index out of range
- Baud rate can be set within 9.600 to 115.200 Bd
- Set user limits (C_{min} and C_{max}) within factory limits
- Store up to 10 user selectable positions



Technical information can be found in Service Bulletins SB-60, SB-63, SB-64 and SB-70:

pct.comet.tech/service-bulletins