

## ➤ CTEC: COMPACT, DYNAMIC, PRECISE

Dynamic conditions are particularly challenging! They require systems capable of generating or handling large accelerations. Reactivity and reliability of actuators developed by CTEC make them unique for high dynamic applications.

However integration and loading conditions being equally important, we invite you to get in touch with our engineers at [actuator@cedrat-tec.com](mailto:actuator@cedrat-tec.com) to discuss your application.



## ➤ TABLE OF STANDARD PROPERTIES OF USE AND MEASUREMENT

The properties defined in the table below, are set up according to the technical conditions of use and measurement. These properties are warranted within their variation range and in compliance with the standard technical conditions of use.

PROPERTIES	STANDARD TECHNICAL CONDITIONS	UNIT	NOMINAL VALUES	MIN. VALUES	MAX. VALUES
Notes		-	Preliminary data	-	-
Sensor options	SG	-	-	-	-
Mastered motions	TX	-	-	-	-
Max. no load displacement	Quasistatic excitation, blocked-free	µm	110	99	138
Max Out of plane Z displacement		µm	2.00	-	-
Max. parasitic Z rotation		µrad	-	-	-
Max. parasitic XY rotation		µrad	5.0	-	-
Blocked force	Quasistatic excitation, blocked-free	N	29	23	35
Stiffness	Quasistatic excitation, blocked-free	N/µm	0.26	0.2	0.3
Unloaded resonance frequency (in the actuation's direction)	Harmonic excitation, blocked-free, on the admittance curve	Hz	850	680	978
Unloaded response time	Quasistatic excitation, blocked-free	ms	0.59	0.53	0.68
Capacitance (per electrical port)	Harmonic excitation, blocked-free, on the admittance curve	µF	1.55	1.40	2.02
Resolution		nm	11.0	-	-
Height (Z axis)		mm	12	10.80	14.40
Dimensions (X & Y)		mm	30*30	-	-
Mass		g	23.0	-	-
Standard mechanical interface (payload)	4 M3 threaded holes on □ 17*17	-	-	-	-
Standard mechanical interface (frame)	4 Ø 3.2 mm holes on □ 17*17	-	-	-	-
Standard electrical interface	2 PTFE insulated AWG30 wires 100 mm long with Ø1 banana plug	-	-	-	-

## ➤ PROPERTIES STANDARD TECHNICAL CONDITIONS OF USE AND MEASUREMENT

Free-free :	The actuator is not fixed
Blocked-free :	The actuator is fixed to a mechanical support assumed infinitely stiff
Quasistatic excitation :	AC voltage between -20 and 150 V at 1 Hz
Harmonic excitation :	Voltage of 0.5 Vrms, sinusoidal mode from 0 to 100 kHz
Max. harmonic excitation :	Voltage defined by the measurement of max. displacement, sinus at resonance frequency
Displacement measurement :	Laser interferometer, capacitive displacement sensor
Admittance measurement :	HP 4194 A or Cypher C60 electrical impedance analyser
Environment :	Ambient temperature (15-25°C) and dry air (Humidity < 50 % rH)

Any technical conditions of use, different from those defined above, can lead to temporary or definitive alterations of properties. Thank you to contact CEDRAT TECHNOLOGIES before using actuators under non standard technical conditions.

## ➤ FACTORY TESTS CARRIED OUT

- Test 1 : Electrical admittance vs. Frequency, free-free
- Test 2 : Displacement vs. input voltage

## ➤ OPTIONAL EXTRA FACTORY TESTS

- Test 3 : Gain and linearity of the sensor
- Test 4 : Step response in closed loop
- Test 5 : Stability in closed loop

## ➤ AVAILABLE OPTIONS

- [ SG ] Strain gauges
- [ VAC ] Vacuum
- [ SI ] Specific interface
- [ SV ] Specific version / customization

➤ 2D CONFIGURATION

