

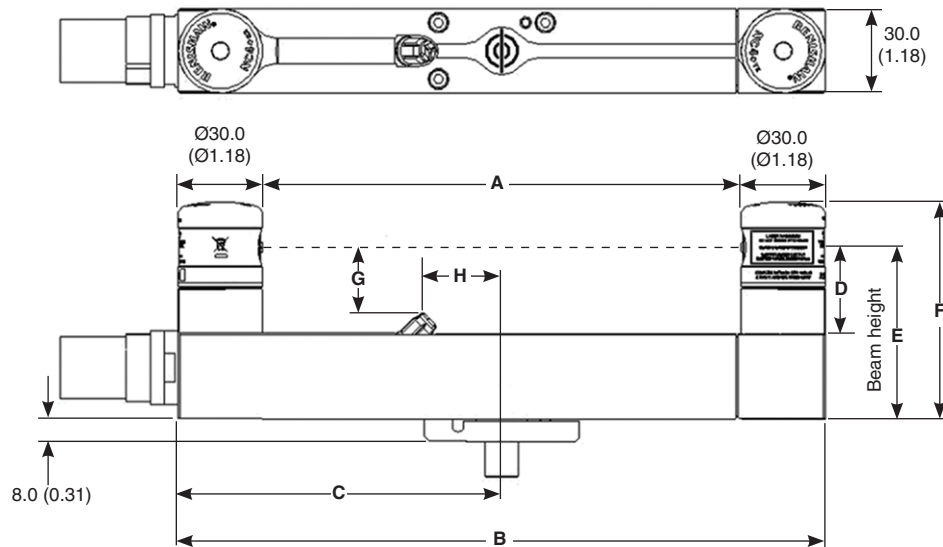
NC4 non-contact tool setting range


www.renishaw.com/nc4

Specification

Principal application		High-precision, high-speed non-contact tool setting and tool breakage detection on all sizes of vertical and horizontal machining centres, multi-tasking machines and gantry machining centres.
Transmission type		Hard-wired transmission
Compatible interface		NCi-6
Repeatability		±1.0 µm (39.37 µin) 2σ
Tool setting and tool breakage detection (minimum tool or feature size)		Ø0.03 mm (0.0012 in) or larger depending on separation and set-up
Output signal (from interface unit)		Two voltage-free, solid-state relays (SSR). Each can be either normally open or normally closed (selectable via a switch). Current (max.) 50 mA, voltage (max.) ±50 V. The interface contains an auxiliary relay which can be used for switching the output between the NC4 and a spindle probe. This relay can also be used to control an air blast solenoid (optional).
Supply voltage (to interface)		11 Vdc to 30 Vdc
Supply current (to interface)		120 mA @ 12 Vdc, 70 mA @ 24 Vdc
Supply protection		Resettable fuses in interface. Reset by removing power and cause of fault.
Electrical connection arrangement (Other configurations are available on request.)		Hard-wired systems: cable on the end of the unit Systems with connector: connector socket
Cable (to interface)	Specification	Ø6.0 mm (0.24 in) , two twisted pairs, two individual cores plus screen, each core 18 × 0.1 mm insulated
	Length	12.5 m (41.01 ft)
	Electrical connection	Hard-wired systems: cable on the end of the unit. Systems with connector: cable with bayonet-type cable plug, connector socket on the end of the unit. Other configurations are available on request.
NC4 pneumatic supply		Hard-wired systems: Ø3.0 mm (0.12 in) × 5.0 m (16.40 ft). Systems with connector: Ø4.0 mm (0.16 in) × 5.0 m (16.40 ft). Air pipe, 6.0 bar (87.02 psi) maximum. Air supply to the NC4 must conform to BS ISO 8573-1: 2010 Class 1.4.2.
Air blast pneumatic supply		Ø6.0 mm (0.24 in) air pipe × 5.0 m (16.40 ft), 6.0 bar (87.02 psi) maximum. Air supply to the air blast must conform to BS ISO 8573-1: 2010 Class 2.9.4.
Laser type		Class 2 laser product: NC4 (red laser) – 1 mW maximum output emitted wavelength 670 nm. NC4+ Blue (blue laser) – 1 mW maximum output emitted wavelength 405 nm. WARNING: Laser radiation. Do not stare into beam.
Laser beam alignment		The unit is supplied with an adjustable mounting plate on the underside.
Weight (including 12.5 m (41.01 ft) of cable).		1080 g (2.38 lb) to 2000 g (4.4 lb) depending on configuration.
Sealing		IPX6 and IPX8, BS EN 60529:1992+A2:2013 (IEC 60529:1989+A1:1999+A2:2013)
Mounting (Alternative fixing arrangements are available on request.)		M4 (3 off), M10 (3/8 in) or M12 (1/2 in) bolts for mounting via adjuster plate (not supplied)
Storage temperature		–25 °C to +70 °C (–13 °F to +158 °F)
Operating temperature		+5 °C to +55 °C (+41 °F to +131 °F)

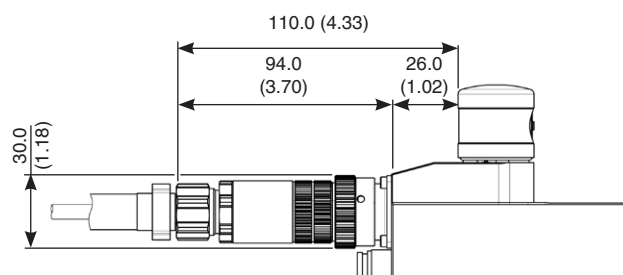
NC4 hard-wired system dimensions



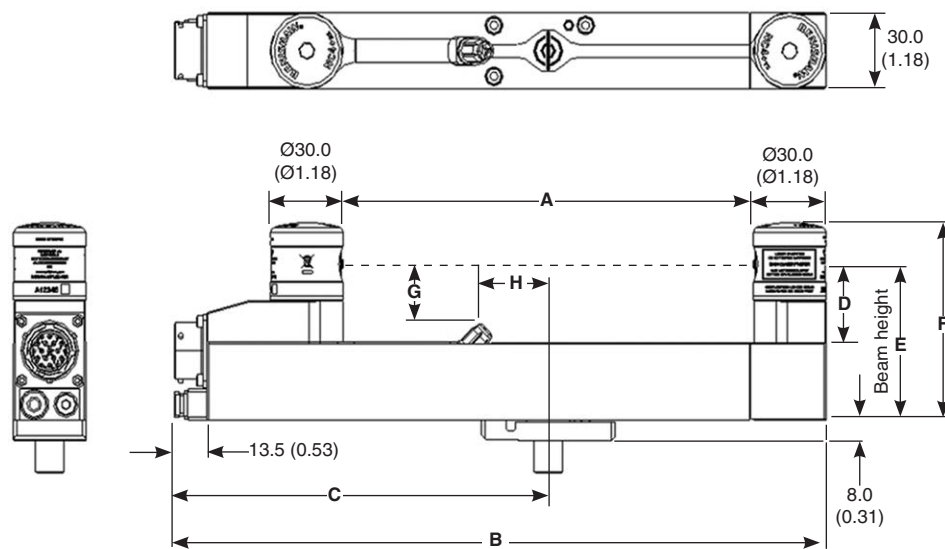
Model	Blue laser	Red laser	Dimensions							
			A	B	C	D	E	F	G	H
F115		✓	55.0 (2.17)	115.0 (4.53)	57.5 (2.26)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	18.0 (0.71)	13.7 (0.54)
F115 (raised)		✓	55.0 (2.17)	115.0 (4.53)	57.5 (2.26)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	35.6 (1.40)	12.6 (0.50)
F145		✓	85.0 (3.35)	145.0 (5.71)	72.5 (2.85)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	20.4 (0.80)	24.5 (0.96)
F145 (raised)		✓	85.0 (3.35)	145.0 (5.71)	72.5 (2.85)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	37.5 (1.48)	25.0 (0.98)
F230		✓	170.0 (6.69)	230.0 (9.06)	115.0 (4.53)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	21.3 (0.84)	25.3 (1.00)
F230 (raised)		✓	170.0 (6.69)	230.0 (9.06)	115.0 (4.53)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	40.3 (1.59)	44.3 (1.74)
F300		✓	240.0 (9.45)	300.0 (11.81)	150.0 (5.91)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	21.4 (0.84)	25.4 (1.00)
F300 (raised)		✓	240.0 (9.45)	300.0 (11.81)	150.0 (5.91)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	40.4 (1.59)	44.4 (1.75)

Dimensions in mm (in)

NC4 straight connector dimensions



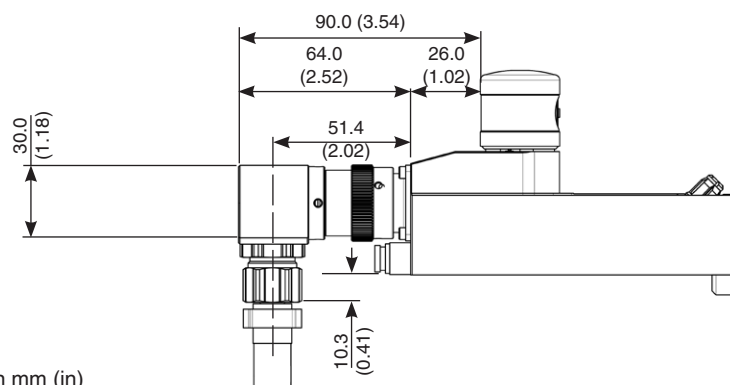
Dimensions in mm (in)



Model	Blue laser	Red laser	Dimensions							
			A	B	C	D	E	F	G	H
F115C	✓	✓	55.0 (2.17)	155.0 (6.10)	97.3 (3.83)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	18.1 (0.71)	13.8 (0.54)
F115C (raised)	✓	✓	55.0 (2.17)	155.0 (6.10)	97.3 (3.83)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	35.1 (1.38)	12.3 (0.48)
F145C	✓	✓	85.0 (3.35)	185.0 (7.28)	112.3 (4.42)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	21.3 (0.84)	25.3 (1.00)
F145C (raised)	✓	✓	85.0 (3.35)	185.0 (7.28)	112.3 (4.42)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	37.1 (1.46)	24.7 (0.97)
F230C		✓	170.0 (6.69)	270.0 (10.63)	155.0 (6.10)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	21.3 (0.84)	25.3 (1.00)
F230C (raised)		✓	170.0 (6.69)	270.0 (10.63)	155.0 (6.10)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	40.3 (1.59)	44.3 (1.74)
F300C		✓	240.0 (9.45)	340.0 (13.39)	190.0 (7.48)	31.0 (1.22)	61.0 (2.40)	77.0 (3.03)	21.3 (0.84)	25.3 (1.00)
F300C (raised)		✓	240.0 (9.45)	340.0 (13.39)	190.0 (7.48)	50.0 (1.97)	80.0 (3.15)	96.0 (3.78)	40.3 (1.59)	44.3 (1.74)

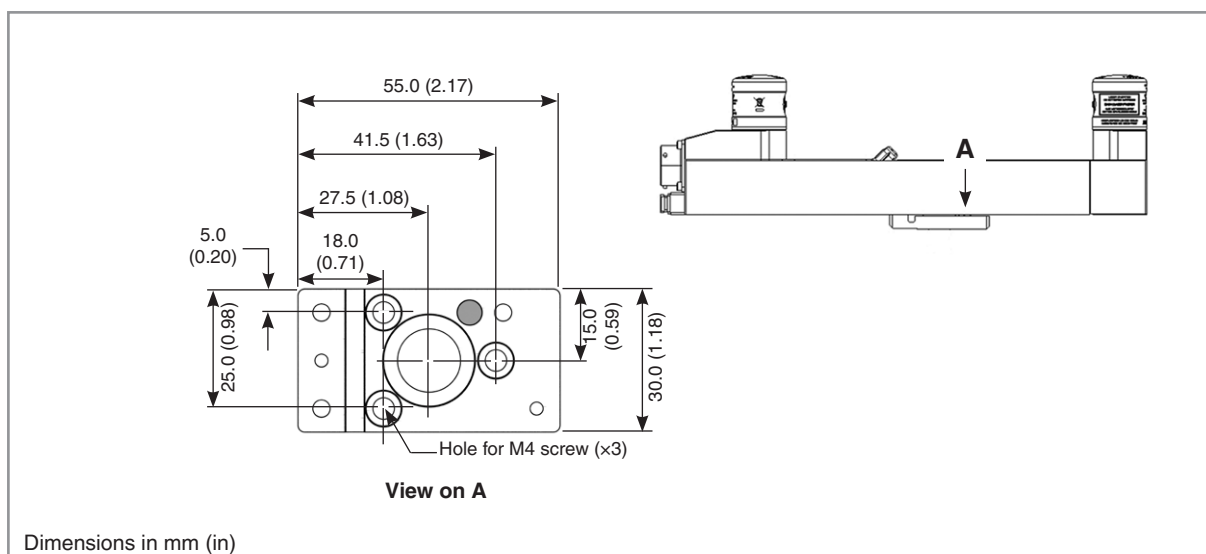
Dimensions in mm (in)

NC4 90° connector dimensions

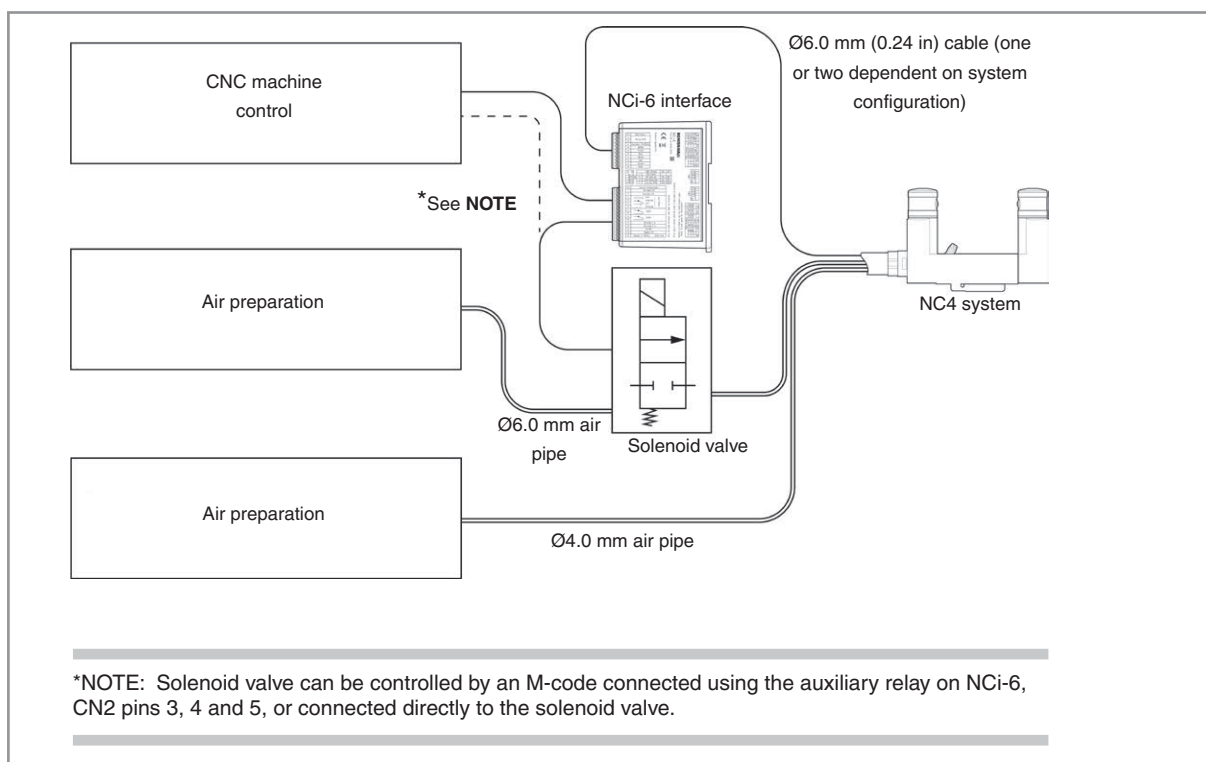


Dimensions in mm (in)

NC4 adjuster plate mounting and dimensions



Electro-pneumatic integration



Spare parts and accessories

A full range of spare parts and accessories is available.
Please contact Renishaw for a full list.

For worldwide contact details, visit www.renishaw.com/contact

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