

QE series EC tools and Insight controllers

EVERY ASSEMBLY IS CRITICAL



Insight i320 series controllers for OE series EC tools

Insight Controller IC 2 G 3 A 1 A N S — S = supplied with ICS Connect Software

IC = Insight Controller
 2 = Two spindles
 1 = One spindle

G = Graphic colour display
 D = Small colour display
 M = One line LED display

3 = 230V power supply

N = -, F = Floppy drive ("G" controllers)
 W = Wall mount, C = Cabinet mount (D&M controllers)

A = -, C = Flash memory (G)

1 = Standard communication (incl. Ethernet)
 3 = Additional Profibus, 4 = Additional Devicenet

A = Standard interface card: 8 I/O
 B = One additional card (for single spindle): 24 I/O
 C = Two additional cards (for two spindles): 2x 24 I/O

- Intuitive navigation and quick access: guided programming with graphical, user friendly display with four main „hot keys“ (does not refer to "M" controllers (IC1M))
- Accessory interface with up to 24 inputs & outputs per spindle (standard 8).
- Standard Ethernet, optional Profibus, Devicenet.
- 4x RS232 on "G" controllers, 1x RS232 on D&M controllers) to connect bar code reader, printer, receive or send data.
- On "G" controllers: possibility to define additional parameters shown on the screen. Screen can also be split to monitor two spindle operation.
- Weight: IC1D & IC1M: 5,6 kg, IC1G: 27 kg, IC2G: 32 kg
- 230V AC, 50 Hz, 10 A (or 120V AC, 60 Hz, 20A) power supply for "G" controllers, 6A and 12A respectively for D&M controllers.
- Security: GFI (Residual Circuit Breaker), short circuit protection, detection of Over-current Fault, Motor Temperature Fault, & SCM Temperature Fault. Most shut down faults displayed at the base of the screen (for "M" controller – fault code only).



IC1M3B1A

IC1D3A1A

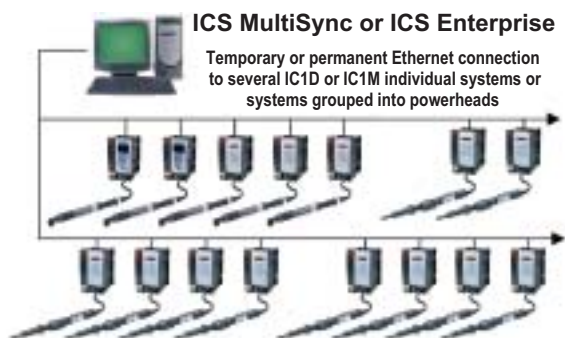
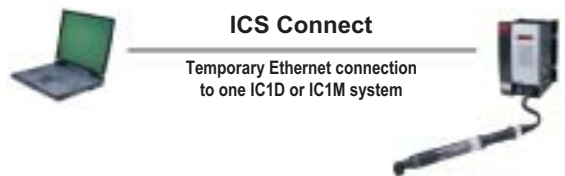
Any controller fits any tool or spindle from both QE and QM series



IC2G3A1AN

	Controllers				Level of ICS software			
	IC1G	IC2G	IC1D	IC1M	ICS Connect	ICS Network	ICS MultiSync	ICS Enterprise
Fastening data stored	5000	2x 5000	1000	200	∞ ¹⁾	∞ ¹⁾	∞ ¹⁾	∞ ¹⁾
Programmable config	32	2x 32	256	256	256	256	256	256
Programmable steps ²⁾	128	2x 128	128	128	128	128	128	128
Synchronised spindles	---	up to 2	see ICS	see ICS	---	---	up to 40	up to 40
Max. q-ty of spindles	1	2	1	1	1	500	100	500
Number of password ³⁾	4	4	1	---	∞	∞	∞	∞
Tightening curves overlaid	5	2 x 5	---	---	---	1	10	10

¹⁾ - unlimited, depends on the optional archiving program capability
²⁾ - per spindle in G controllers, or per config in D&M controllers
³⁾ - for D&M controllers: passwords with definable scope of access with ICS Software



PROGRAMMING:

- Standard "quick setup" programming: torque, angle control modes with automatic default values (ICS Software + computer with Ethernet port required to read and set data on ICD units). Autoincrement & gang count with ICS connect.
- Advanced programming built into G type controllers (IC2G, IC1G) or available for D&M type controllers (IC1D, IC1M) with ICS Software (except ICS Connect). Multiple control modes available: torque, angle, yield, backout, pre-torque, prevailing torque, jog, fault backout, with adjustable free speed, soft start speed, backout speed and shutdown per configuration, autoincrement, gang count, CW/CCW tightening, tubenut operation.
- Possibility to set service alarms for the tools and statistical trends alarms.
- Full statistical process capability based on up to 100.000 population.
- ICS software licences are available for 1, 2, 5, 10, 20, 50, 100 spindles (optionally 500 spindles for ICS Network and ICS Enterprise)
- Standard Ethernet cables and hubs are used to connect IC1D & IC1M controllers into a network. Cross-over Ethernet cables are used to connect computer with individual controller. DM-canbus-45 (length 1,1 m), and DM-canbus-70 (1,7 m) cables required to connect controllers working as power head.
- USB key available for parameter dump.

Please consult your Ingersoll-Rand Fastener Tightening Systems representative for the best multispindle solution.

QE series EC tools with torque & angle control

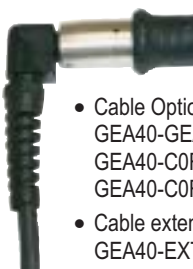
QE SERIES REVOLUTIONARY DESIGN:

- Faster, lighter and more accurate tools
- Digital torque & angle converters integrated in the tool - minimal connectors & data link for increased reliability and extending tool cable up to 60 meter
- Quiet: noise levels below 65 dBa
- Reliable Brushless Motor
- Durable: up to 500 000 gearing cycles for <150 Nm and up to 250.000 gearing cycles for >150 Nm
- Clear Lights: High Visibility LED on Body of Tool 3 or 4 places
- 3 Position Tool Switch Forward / Reverse / Programmable Tool Switch.
- Ergonomic: comfortable Ø 36,5 mm hand fitted cushioned grip handle, soft & cool to touch
- Well balanced: designed for a 'natural' balance point when hanging
- Robust: 2 meters drop test (better than UL 745 standard)
- Smart tool recognition: plug tool in, Insight controller recognises it, and adjusts the settings
- Threaded holes on high torque angle heads for easy torque reaction bar & offset heads mounting
- Wide range: useable from 10% to 100% torque range
- Easy to maintain: < 5 min strip down time
- Very Low Vibration < 1,2 m/s²
- Asset Management TouchSync™
- Conformity to ISO 5393 / CE / EMI/ANSI
- World Wide Certification: APTP / MFU / CNOMO / FIAT



- Reliable quick disconnect cable: over 500 000 bend cycles - twice better than UL745 standard:

GEA40-CORD-3M ¹⁾ GEA40-CORD-6M ¹⁾
 GEA40-CORD-10M ¹⁾



- Cable Option with 90° Integral Bend:
 GEA40-GEA40-CORD-3M-90 ¹⁾
 GEA40-CORD-6M-90 ¹⁾
 GEA40-CORD-10M-90 ¹⁾
- Cable extension cables:
 GEA40-EXT-10M ¹⁾
 GEA40-EXT-20M ¹⁾
 GEA40-EXT-40M ¹⁾

¹⁾ 3M = 3 m length, etc.

QE4 SERIES ELECTRIC SCREWDRIVERS

- Lightweight 1,2 kg
- Three status lights in 3 positions
- Optional torque reaction bar
- Length: 340 mm (straight tools), 234 - 243 mm (pistol tools)



QE4TS010R11PQ04



QE4PT015R11PS06

Straight Push-To-Start	Pistol Handle	Output drive	Max. torque [Nm]	Max. speed [rpm]
QE4TS010R11PQ04	QE4PT010R10Q04	QC 1/4"	10	1820
QE4TS010R11PS06	QE4PT010R10S06 ¹⁾	■ 3/8"	10	1820
QE4TS015R11PS06	QE4PT015R10S06	■ 3/8"	15	1220
QE4TS020R11PS06	QE4PT020R10S06	■ 3/8"	20	900
QE4TS025R11PS06	QE4PT025R10S06	■ 3/8"	25	710

¹⁾ - QC1/4" version also available. QC means quick-change bitholder. Straight tools are push-to-start models, for lever start please see QE series on the following page. Pistol tools are supplied with GEA15-K48 torque reaction bar and trigger start as standard; push-to-start and trigger permit versions available on request.



QE4AT027PA4S06

QE SERIES ANGLE WRENCHES

Angle wrench	Output drive	Max. torque [Nm]	Recomm. torque [Nm]	Max. speed [rpm]	Weight [kg]	Length [mm]	Angle head radius [mm]	Angle head height [mm]
QE4AT013PA2H04	◆ 1/4"	13	3 - 10	1200	1,3	383	12,9	31,4
QE4AT013PA2S04	■ 1/4"	13	3 - 10	1200	1,3	383	12,9	31,4
QE4AT013PA2S06	■ 3/8"	13	3 - 10	1200	1,3	383	12,9	31,4
QE4AT020PA2S06	■ 3/8"	20	4 - 16	820	1,3	383	12,9	31,4
QE4AT027PA4S06	■ 3/8"	27	5 - 22	600	1,3	387	17	42,1
QE4AT027PA4S08	■ 1/2"	27	5 - 22	600	1,3	387	17	42,1
QE4AT034PA4S06	■ 3/8"	34	7 - 27	470	1,3	387	17	42,1
QE4AT034PA4S08	■ 1/2"	34	7 - 27	470	1,3	387	17	42,1
QE6AT030PA4S06	■ 3/8"	30	6 - 24	1230	1,9	447	17	42,1
QE6AT030PA4S08	■ 1/2"	30	6 - 24	1230	1,9	447	17	42,1
QE6AT040PA4S06	■ 3/8"	30	8 - 32	1230	1,9	447	17	42,1
QE6AT040PA4S08	■ 1/2"	40	8 - 32	910	1,9	447	17	42,1
QE6AT055PA5S08	■ 1/2"	55	11 - 44	650	1,9	447	21,4	42,1
QE6AT080PA5S08	■ 1/2"	80	16 - 64	440	1,9	453	21,4	44,1
QE8AT065PA5S08	■ 1/2"	65	13 - 52	1200	2,9	516	21,4	44,1
QE8AT090PA5S08	■ 1/2"	90	18 - 72	850	2,9	516	21,4	44,1
QE8AT115PA6S08	■ 1/2"	115	23 - 92	660	2,9	520	24,3	50
QE8AT150PA6S08	■ 1/2"	150	30 - 120	510	2,9	515	24,3	75
QE8AT225PA7S12	■ 3/4"	225	48 - 192	328	4,1	575	26	75
QE8AT400PA8S12	■ 3/4"	400	80 - 320	217	6,0	635	35	95

Also available as fixtured angle modules for integration.

Ball pin **5UHD-715** available for 1/2" square drives for easy socket replacement.



QE8AT115PA6S08



QE8AT240PA7S12

Extremely high cycle rates do not allow the motor to cool between cycles. Soft joints force the motor to work harder and heat up. The maximum torque for a specific tool may be higher than the recommended target value. Please consult your Ingersoll-Rand Fastener Tightening Systems representative.

QE & QM series EC fixtured spindles

QM9 series



QM3 series



MODULES FOR INTEGRATION WITH SPRING LOADED SPINDLES

Model	Output drive	Max. torque [Nm]	Recomm. torque [Nm]	Max. speed [rpm]	Weight [kg]	Length [mm]	C-C distance [mm]
QM3SS008H62S06	■ 3/8"	8	2 – 6	1382	2,4	449	34
QM3SS012H62S06	■ 3/8"	12	3 – 10	927	2,4	449	34
QM3SS016H62S06	■ 3/8"	16	4 – 13	686	2,4	449	34
QM3SS020H62S06	■ 3/8"	20	5 – 16	545	2,4	449	34
QM5SS035H62S08	■ 1/2"	35	9 – 28	590	3,9	523	44
QM5SS055H62S08	■ 1/2"	55	14 – 44	507	3,9	523	44
QM5SS090H62S08	■ 1/2"	90	23 – 72	280	3,9	523	44
QM7SS190H62S12	■ 3/4"	190	48 – 152	273	8,4	645	70
QM7SS220H62S12	■ 3/4"	220	55 – 176	233	8,4	645	70
QM9SS315H62S12	■ 3/4"	315	79 – 250	278	18,6	711	89
QM9SS435H62S12	■ 3/4"	435	109-346	203	18,6	711	89
QM9SS520H62S12	■ 3/4"	520	130-410	170	18,6	711	89
QM9SS650H62S16	■ 1"	650	163-516	136	18,6	711	89
QM9SS01KH62S16	■ 1"	1000	250-800	51	24,5	857	130

Spindle float is 50 mm, extension length 150 mm. Other square drives and longer spindle extensions available.

Modules in tool housing with spring loaded spindles

QE4SC010B21S06	■ 3/8"	10	2 – 8	1820	1,2	390	48,5
QE4SC015B21S06	■ 3/8"	15	3 – 11	1220	1,2	390	48,5
QE4SC020B21S06	■ 3/8"	20	4 – 16	900	1,2	390	48,5
QE4SC025B21S06	■ 3/8"	25	5 – 20	710	1,2	390	48,5
QE6SC020B41S06	■ 3/8"	20	4 – 16	1840	2,1	500	54,7
QE6SC028B41S06	■ 3/8"	28	6 – 22	1360	2,1	500	54,7
QE6SC033B41S06	■ 3/8"	33	7 – 26	1130	2,1	500	54,7
QE6SC050B41S08	■ 1/2"	50	10 – 40	760	2,1	500	54,7
QE8SC055F61S08	■ 1/2"	55	11 – 44	1470	3,0	557	60,5
QE8SC070F61S08	■ 1/2"	70	14 – 56	1160	3,0	557	60,5
QE8SC090F61S08	■ 1/2"	90	18 – 72	900	3,0	557	60,5
QE8SC150F61S12	■ 3/4"	150	32 – 128	500	3,4	572	
QE8SC230F62S12	■ 3/4"	230	45 - 185	340	5,5	710	

Available also as handheld tools with lever start (except QE8SC230): change SC into ST in the model number. Supplied with removable 15E4-K48 flange mount kit (B) or GEA4-K48 mounting plate (F). Spindle float is 19 mm (QE4) or 38 mm (other), extension length 50 mm (QE4) or 100 mm (other). Other square drivers and longer spindle extensions available.

ACCESSORIES FOR TOOLS & MODULES

- Extended start levers: short lever kit GEA40-K98SL & extended lever kit GEA40-K98EL



- Angle head boots (# for head size)
GEA40-170 (#2) GEA40-171 (#4)
GEA40-172 (#5) GEA40-173 (#6)
- Swivel hanger GEA40-K364 for QE6 & QE8 series (standard suspension bail 7L-365 included for QE4 series)



- Offset spindles for integration
- Offset heads for tools

	QE4 series	QE6 & QE8 series
Reaction bar kit ¹⁾	GEA15-K48	DEA120-K48
Flange mount kit ¹⁾	15E4-K48	DEM120-K48
Mounting plate kit ¹⁾	GEA4-K48	DAM120-K48

¹⁾ - Up to 150 Nm for angle tools (90 Nm for straight).



Flange mount plate



Mounting plate

QE6SC55B41S06

Accessories for Insight controllers



Socket tray for 4 or 8 sockets:
PFS-SOCKET-4
PFS-SOCKET-8

Remote selector switch
4, 8 or 16 positions:
PFS-SELECT-4
PFS-SELECT-8
PFS-SELECT-16



Remote Control Handles
GEA40-RH1

IC-PALM-RESET
Reset Station



Light tower
LCE-FB



Use **PFS-19P** cable for accessory connection (15 meter long with one "free end").



IC-ESTOP
Emergency Stop Button

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