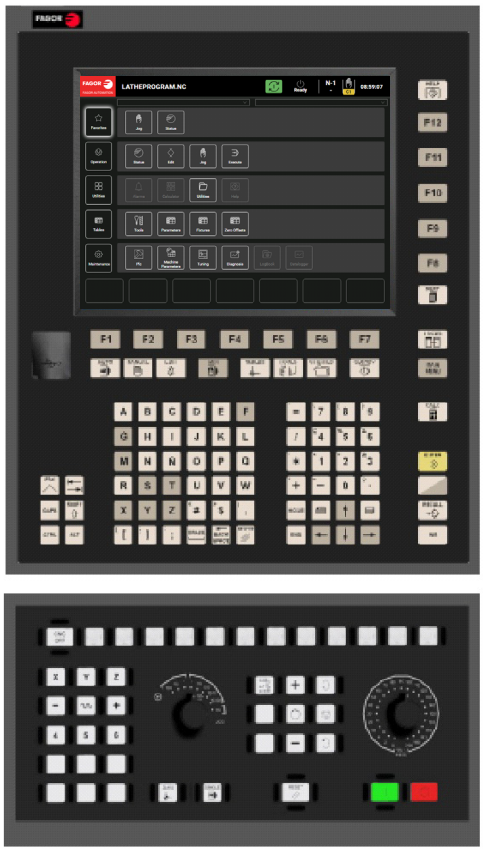
FAGOR AUTOMATION

Ordering Handbook

CNC 8060 *elite* M/T

Ref.2210

Original instructions



FAGOR AUTOMATION

DENOMINATIONS

CNC 8060elite M/T

Full Name

□ – □ – □ – □□□□ – □ – □□□□ – □□

Type of CNC
- CNC (LCD and Central Unit) QC-C60
- U. Central cabinet QC-U60

Monitor type (only for CNC)
- 10" LCD + Keyboard 10K
- 10" LCD Horizontal 10H
- 10" LCD Horizontal Touch Screen 10HT
- 10" LCD Vertical 10V
- 10" LCD Vertical Touch Screen 10VT
- 15" LCD 15
- 15" LCD Multitouch Screen 15AT

U. Central cabinet
- Without LCD -

Type of function
- Milling machines & Centers M
- Lathes and Turning Centers T

Processor
- Basic Processor B

Flash memory
- 20 GB 20

Interface
- Sercos 3 S3

Windows
- Windows 10 10

Axes From 3 to 9

Internal code
- 10

Advanced software
- \- Standard software
- AV Advanced software

Software options (1)
- a Conversational (IIP)
- b Kinematic Calibration
- C HSSA II Machining System
- d DMC (Dynamic Machining Control)
- f FFC (Fagor Feed Control)
- G Probe
- H C axis
- I Tandem axes
- i i4.0 CONNECTIVITY PACK
- J Synchronism
- K Tangential control
- m FMC (Fagor Machining Calculator)
- M RTCP
- N Y Axis
- P Third Party DRIVES
- r Third Party IOs
- S Fagor HD Graphics
- U Conversational User Cycles
- X PROGTL3 editing
- Y CNC program translator
- z Operating Terms

Channels From 1 to 2

Magazines From 1 to 2

Spindles From 1 to 3

(1) Depends on the type of function

Reduced Name

The Full Name of the CNC has a variable length and can exceed 40 characters. But the label allows only up to 40 characters for that field. Therefore, the label will show a "Reduced Name", where the data related to 'Axes', 'Spindles', 'Magazines', 'Channels', 'Software options' and 'Advanced software' are replaced by a 4-digit code as in the following example:

QC - C60 - 10K - M - B 20 S3 10 - **4 - 1 1 1 BCI** - 10 --> QC - C60 - 10K - M - B 20 S3 10 - **S010** - 10

The label will display the replaced characters on a lower line.

CENTRAL UNIT IN FRONTAL PANEL

MONITOR & OPERATOR PANEL

8060 CNC with 10.4" LCD and Operator Panel

(1)

(2)

(3)

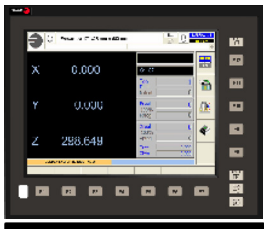
(4)

(3)

Code	Model	Description	
83600000	MONITOR-LCD-10 VERTICAL	10" LCD Vertical monitor	(1)
83600001	MONITOR-LCD-10 TOUCH VERTICAL	10" LCD Touch screen Vertical monitor	
83600002	MONITOR-LCD-10 HORIZONTAL	10" LCD Horizontal monitor	(2)
83600003	MONITOR-LCD-10 TOUCH HORIZONTAL	10" LCD Touch screen Horizontal monitor	
83600004	MONITOR-LCD-10K-001	10" LCD Monitor + Keyboard	(4)

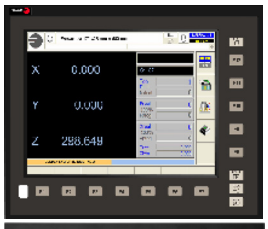
Code	Model	Description	
83600010	OP PANEL 329	JOG Panel, 329 mm	(3)

15" LCD and Operator Panel


(1)

(2)

(4)


(1)

(3)

(4)

Monitor (choose one of them)

Code	Model	Description	
83700053	MONITOR-LCD-15	15" LCD monitor	(1)
83700059	MONITOR-LCD-15A-MULTITOUCH	15" LCD Capacitive Multitouch monitor screen	

Keyboard (choose one of them)

Code	Model	Description	
83760019	HORIZONTAL KEYB 2.0+TOUCHPAD	2.0 Horizontal Qwerty keyboard with touchpad mouse	(2)
83760028	HORIZONTAL KEYB 2.0-A	2.0-A Horizontal Qwerty keyboard with touchpad mouse and thin profile	
83760020	HORIZONTAL KEYB	Horizontal Qwerty keyboard	
83760022	VERTICAL KEYB	Vertical alphanumeric keyboard	(3)

Operator Panel (choose one of them)

Code	Model	Description	
83760024	OP PANEL	JOG Panel	(4)
83760025	OP PANEL + SPDL RATE	JOG Panel with Spindle override	
83760029	OP PANEL-A	JOG Panel with thin profile	
83760030	OP PANEL + SPDL RATE-A	JOG Panel with Spindle override with thin profile	

CENTRAL UNIT IN FRONTAL PANEL

CENTRAL UNIT

Central Unit (choose one of them)

Code	Model	Description	
83600130	8060elite-M-ICU	*elite* integrate Central Unit with EtherCAT for Milling machines	(1)
83600131	8060elite-T-ICU	*elite* integrate Central Unit with EtherCAT for Lathes	

(1) Choose one of them

Central Unit components

Code	Model	Description	
83600206	MP-BASIC-e	*elite* Basic Processor	(1)
83700250	MOD-4GB-RAM	4 GB RAM module	(1)
83701130	M.2-SATA-20	20 GB M.2 SATA	(1)
83600057	SERCOS-3	Sercos 3 module	(1)

(1) Required always

Operating System

Code	Model	Description	
83740098	SOFT WINDOWS 10	WINDOWS 10 software	(1)

(1) Required always

CENTRAL UNIT IN ELECTRICAL CABINET

CENTRAL UNIT

Code	Model	Description	
83600132	8060elite-M-MCU	*elite* modular Central Unit with EtherCAT for Milling machines	(1)
83600133	8060elite-T-MCU	*elite* modular Central Unit with EtherCAT for Lathes	

(1) Choose one of them

Code	Model	Description	
83600206	MP-BASIC-e	elite Basic Processor	(1)
83700250	MOD-4GB-RAM	4 GB RAM module	(1)
83701130	M.2-SATA-20	20 GB M.2 SATA	(1)
83600057	SERCOS-3	Sercos 3 module	(1)

(1) Required always

Code	Model	Description	
83740098	SOFT WINDOWS 10	WINDOWS 10 software	(1)

(1) Required always

19" and 21" Panel PC

(1)

(2)

(3)

PPC (choose one of them)

Code	Model	Description	
83760040	PPC-19-F-B-16-7A	PANEL PC 19" 16Gb	(1)
83760041	PPC-19-N-B-16-7A	PANEL PC 19" 16Gb (without logo)	
83760042	PPC-21W-F-B-16-7A	PANEL PC 21" Widescreen 16Gb	(2)
83760043	PPC-21W-N-B-16-7A	PANEL PC 21" Widescreen 16Gb (without logo)	
83760044	PPC-21W-F-B-16-7A-M128	PANEL PC 21" Widescreen 16Gb - 128Gb expansion	
83760045	PPC-21W-N-B-16-7A-M128	PANEL PC 21" Widescreen 16Gb - 128Gb expansion (without logo)	

Keyboard (choose one of them)

Code	Model	Description	
83760019	HORIZONTAL KEYB 2.0+TOUCHPAD	2.0 Horizontal Qwerty keyboard with touchpad mouse	(3)
83760028	HORIZONTAL KEYB 2.0-A	2.0-A Horizontal Qwerty keyboard with touchpad mouse and thin profile	

Complete the configuration with:
(4) Operator panel as shown in page 3.

Monitor 18W and 21W

(1)

Monitor 18W and 21W (choose one of them)

Code	Model	Description	
83700067	MONITOR-18W MULTITOUCH	18" Widescreen LCD monitor	(1)
83700057	MONITOR-21W MULTITOUCH	21" Widescreen LCD monitor	
83700058	MONITOR-21W MULTITOUCH NEUTRO	21" Widescreen LCD monitor (without logo)	

Complete the configuration with:
(2) or (3) Keyboard as shown in page 3 (except 83760019 HORIZONTAL KEYB 2.0+TOUCHPAD).
(4) Operator panel as shown in page 3.

MODELS & SOFTWARE OPTIONS

				8060*elite*	
				M	**T**
		AXES	(min.-max.)	3 .. 9	3 .. 9
		INTERPOLATED AXES	(max.)	4	4
		SPINDLES	(min.-max.)	1 .. 2	1 .. 3
		MAGAZINES	(min.-max.)	1	1 .. 2
		CHANELS	(min.-max.)	1	1 .. 2
		Max. AXES + SPINDLES		10	10
83740030		SOFT ADDIT AXES		( )	( )
83740031		SOFT ADDIT SPINDLES		( )	( )
83740032		SOFT ADDIT TOOL MAGAZ		(-)	( )
83740033		SOFT ADDIT CHANNELS		(-)	( )
		SOFT TOOL RADIUS COMP		(A)	(A)
		SOFT EDIT/SIMUL		(A)	(A)
		SOFT PROFILE EDITOR		(A)	(A)
		SOFT DIGITAL SERCOS		(A)	(A)
83740012	K	SOFT TANGENTIAL CONTROL		( )	(-)
83740013	C	SOFT HSSA II MACHINING SYSTEM		( )	( )
83740007	G	SOFT PROBE		( )	( )
83740010	H	SOFT C AXIS		( )	( )
83740073	N	SOFT Y AXIS		( )	( )
83740034	I	SOFT TANDEM AXES		( )	( )
83740035	J	SOFT SYNCHRONISM		( )	( )
83740009	M	SOFT RTCP		( )	(-)
83740042	P	SOFT THIRD PARTY DRIVES		( )	( )
83740065	r	SOFT THIRD PARTY IOS		( )	( )
83740076	S	SOFT HD GRAPHICS		( )	( )
83740077	a	SOFT IIP CONVERSATIONAL		( )	( )
83740072	U	SOFT CONVERS USER CYCLES		( )	( )
83740074	X	SOFT PROGTL3		( )	(-)
83740075	Y	SOFT PPTRANS		( )	( )
83740066	b	SOFT KINEMATIC CALIBRATION		( )	(-)
83740045	i	SOFT i4.0 CONNECTIVITY PACK		( )	( )
83740068	z	SOFT 60/65/70 OPERATING TERMS		( )	( )
83740055	d	SOFT DMC		( )	(-)
83740056	m	SOFT FMC		( )	( )
83740057	f	SOFT FFC		( )	( )

(-)	Not available
( )	Optional Feature
(A)	Standard feature

SOFTWARE DESCRIPTIONS

SOFT TOOL RADIUS COMP (Standard on all models)

Tool compensation allows programming the contour to be machined based on part dimensions and without taking into account the dimensions of the tool that will be used later on. This avoids having to calculate and define the tool path depending on the radius of the tool.

SOFT EDIT/SIMUL (Standard on all models)

It allows editing, modifying and simulating a part-program.

SOFT PROFILE EDITOR (Standard on all models)

It allows editing part profiles graphically and importing DXF files.

SOFT DIGITAL SERCOS (Standard on all models)

Sercos drive system bus.

SOFT TANGENTIAL CONTROL

"Tangential Control" keeps a rotary axis always in the same orientation with respect to the programmed path. The machining path is defined in the axes of the active plane and the CNC keeps the orientation of the rotary axis along the whole path.

SOFT HSSA MACHINING SYSTEM (HSSA II)

The acronym "HSSA" means High Speed Surface Accuracy. It is the new improved version of HSC (High Speed Cutting).

HSSA algorithm calculations make it possible to optimize high speed machining. This achieves higher cutting speeds, smoother contours, better surface finish and higher accuracy.

This system is now offered in two levels, according to the CNC models, providing a choice between the HSSA I system in the CNC 8058 and the HSSA II system in the CNC 8060 an CNC 8065, which has more resources for faster speed.

SOFT PROBE

The CNC may have two probes; usually a tabletop probe to calibrate tools and a measuring probe to measure the part. It also offers functions G100, G103 and G104 for programming probing moves.

This feature activates the probing canned cycles that help measuring part surfaces and calibrating tools updating their dimensions.

SOFT C AXIS

It activates the kinematics for working with C axis and their associated machining cycles.

SOFT Y AXIS

It activates the kinematics for working with Y axis and their associated machining cycles.

SOFT TANDEM AXES

A tandem axis consists in two motors mechanically coupled (slaved) and making up a single transmission system (axis or spindle). This system is normally used to move the axes on large machines.

The CNC configuration contemplates both axes of the tandem. Only an axis is programmed (the master tandem). The other one (the slave tandem) cannot be programmed, but it is controlled by the CNC.

When activating this feature, it must be borne in mind that for each Tandem axis of the machine, another axis must be added to the whole configuration of the machine. For example, on a large 3-axis lathe (XZ and tailstock), if the tailstock is a Tandem axis, the final purchase order for the machine must indicate 4 axes.

SOFT SYNCHRONISM

Axes and spindles may be synchronized in 2 ways, in velocity or in position.

The CNC configuration contemplates 2 axes or 2 spindles that are synchronized. Once synchronized, only the master is displayed and programmed.

SOFT RTCP

The "DYNAMIC RTCP" option is a must for machining in RTCP (Rotating Tool Center Point) with 4, 5 or 6-axis interpolation.

SOFT THIRD PARTY DRIVES

Enables the use of non-Fagor drive modules.

SOFT THIRD PARTY IOs

Enables the use of non-Fagor IO modules.

SOFT HD GRAPHICS

It offers high definition solid 3D graphics during the execution and simulation of the machining operation.

While machining, a high definition 3D graphic simulation shows the tool removing material from the part. This is a real time graphic representation that shows the status of the part at all times. The image may be turned, rotated, enlarged or reduced, and even 2 or 4 views of the part may be displayed.

SOFTWARE DESCRIPTIONS

SOFT IIP (Interactive Icon-based Pages) CONVERSATIONAL

This programming system is a conversational language, especially designed for people with no prior programming knowledge or not familiarized with Fagor CNC's. Therefore, an operator of a conventional machine can start working on Fagor CNC in a couple of hours.

Working in conversational mode is easier than in ISO mode. It ensures proper data entry and minimizes the number of operations to be defined. There is no need to work with part-programs.

SOFT CONVERS USER CYCLES

Alows to integrate user cycles in conversational mode.

SOFT PROGTL3

Profile programming using geometric language without having to use external CAD systems. Program integration and interaction with real-time simulation and creating solids defined by a plane profile and one or several section profiles.

SOFT PPTRANS

Part-program translator.

SOFT KINEMATIC CALIBRATION

This work mode may be used to calibrate a kinematics for the first time and also, every so often, re-calibrate it to correct the possible deviations originated in the day-to-day machine work.

SOFT i4.0 CONNECTIVITY PACK

Software feature defined to enable access to API8070, the library for the development of applications to communicate with the Fagor CNC.

SOFT 60/65/70 OPERATING TERMS

The "Operating Terms" option allows activating a temporary use license in the CNC, valid until a date determined by the OEM.

SOFT DMC (Dynamic Machining Control)

DMC adapts the feedrate during machining to maintain the cutting power as close as possible to ideal machining conditions.

SOFT FMC (Fagor Machining Calculator)

The FMC application consists of a database of materials to be machined and machining operations (milling and turning) with an interface to choose suitable cutting conditions for these operations.

SOFT FFC (Fagor Feed Control)

During the execution of a canned cycle of the editor, the FFC function makes it possible to replace the feedrate and speed programmed in the cycle with the active values of the execution, which are acted upon by the feed override and speed override.

MANUALS

The manuals of the CNC may be downloaded from our FAGOR corporate website.
http://www.fagorautomation.com

Fagor Automation shall not be held responsible for any printing or transcribing errors in the Ordering Handbook and reserves the right to make any changes to the characteristics of its products without prior notice. You must always compare the data with that appearing in the manual.

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