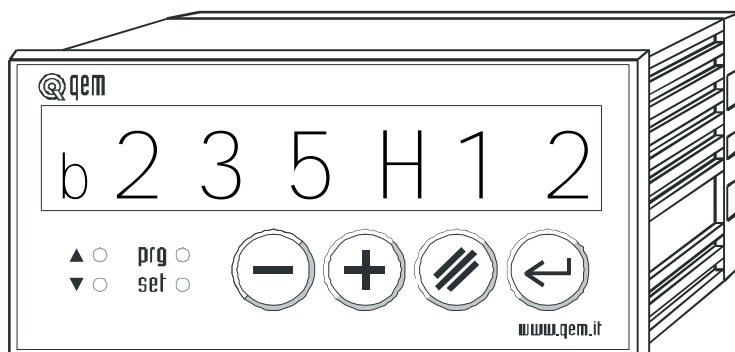


HB 235.12A

User's Manual

Quality in Electronic
Manufacturing

www.qem.it



CONTROLLER OF THE POSITION WITH SLOWING

INDEX OF SUBJECTS IN THIS MANUAL

CHAP. 1 - INTRODUCTION	
- <i>Complementarity</i>	1 - 1
- <i>References</i>	1 - 2
- <i>Responsibility and validity</i>	1 - 3
- <i>Description of operation</i>	1 - 4
CHAP. 2 - OPERATOR / MACHINE INTERFACE	
- <i>Keyboard Description</i>	2 - 1
- <i>Inputs Description</i>	2 - 2
- <i>Outputs Description</i>	2 - 3
CHAP. 3 - STARTUP	
- <i>Programming (set-up)</i>	3 - 1
CHAP. 4 - USE	
- <i>Work programmes and auxiliary functions</i>	4 - 1
- <i>Tables and Graphics of Operation</i>	4 - 2
CHAP. 5 - ASSISTANCE	
- <i>Instructions on How to Fill Up the Technical Assistance Fax</i>	5 - 1
- <i>Guarantee</i>	5 - 2

CHAPTER 1
INTRODUCTION

1 - 1 COMPLEMENTARITY

This manual is to be considered as a complement to the "Manual of installation, maintenance and assistance" which supplies the indications for the performance of wirings, troubleshooting, procedures for startup and maintenance. This manual contains indications for the instrument's use and for a correct programming. We recommend therefore a careful reading and, in case of misunderstandings, please contact QEM for any further explanation, by sending the Assistance Fax which you find enclosed to the manual.

1 - 2 REFERENCES

The documentation concerning the instruments which are designed and sold by QEM has been divided into various sheets in order to allow an effective and quick reading according to the information being sought.

<i>User's Manual</i>	<i>Hardware Structure</i>	<i>Manual of installation, maintenance and assistance</i>
<p><i>Explanation of the software described</i></p> <p>It is the present manual, which shows all instructions for the comprehension and the use of the instrument described. It is a manual concerning the instrument's software; it shows all instructions for the comprehension, programming, calibrations and use of the instrument described. Once you install the instrument by following the instructions shown on the Manual of Installation, maintenance and assistance, with this User's Manual you are supplied with all necessary instructions for the correct use of the instrument and for its programming.</p>	<p><i>Basic information concerning the hardware of the series and possibility of customizations.</i></p> <p>It is a sheet enclosed to this User's manual, describing the hardware configuration concerning the series of the instrument described. It also shows the electrical, technical and mechanical characteristics, of the series and also the possible hardware customizations according to the software version.</p>	<p><i>All what you need for Installation, Maintenance and Assistance.</i></p> <p>Further explanation of all necessary subjects for a correct installation and maintenance. This is made to allow us to supply valid and safe instructions which shall allow you to perform products with a recognized quality and safe reliability. It is also a valid support for all those who must face a technical assistance on an application which includes a QEM's instrument.</p>

1 - 3 RESPONSIBILITY AND VALIDITY

RESPONSIBILITY

QEM is free from any responsibility for damages to people or things due to unobservance of the instructions and prescriptions contained in this manual and in the "Manual of installation, maintenance and assistance". We also state that the customer/purchaser must use the instrument according to the instructions supplied by QEM and in case of doubt he must send a written application to QEM. Any authorization for further use and replacement shall be deemed as valid by QEM, in case of contestation, only if it has been written by QEM.

No reprinting or republishing or delivery to third parties of this manual or of its parts is authorized unless a written authorization is provided by QEM. Any infraction shall provoke a request of indemnization for damages on behalf of QEM. All rights generated by patents or models are reserved.

QEM reserves the right to partially or integrally modify the characteristics of the instrument described and the enclosed documentation

Purpose

The purpose of this manual is to indicate the general rules to use the instrument described.

Indication

Write down and carefully store all parameters concerning the settings and programming of the instrument in order to make easier the eventual operations of replacement and assistance.

VALIDITY

This manual can be applied to all designed instruments, built and tested by QEM and having the same ordering code. This document is integrally valid except for mistakes or omissions.

<i>Instrument's Release</i>	<i>Manual Release</i>	<i>Modifications made to the Manual</i>	<i>Modifications Date</i>
1	0	New manual	22 / 04 / 04

Emesso dal Responsabile Documentazione:

Approvato dal Responsabile di Prodotto:

1 - 4 DESCRIPTION OF OPERATION








The instrument HB 235.12A apart from displaying the position in the axis, this instrument also supplies output that render it useful and a controller of the position visualized respect to the previously introduced.

Other two output signal or indicate the position of zero machine and of slowing refer by the zero.

If the count exceed the maximum visualization permitted, all of the figures beging to flash intermittenly.

CHAPTER 2
OPERATOR/MACHINE INTERFACE

2 - 1 KEYBOARD DESCRIPTION

Key	Function
	<p>Normal operation:pressed for two seconds, it is possible to access by the insert to the pre-selection</p> <p>Data input: confirms the data displayed.</p>
	<p>Normal operation:pressed for two seconds if in set-up the parameter "C" is set to "1" resets the count.</p> <p>Data input:resets the data displayed. Pressed twice reposed the initial data</p>
	<p>Normal operation:not utilized.</p> <p>Data input:increases by impulse or in continuous mode the number selected on the screen (the one that flashes)</p>
	<p>Normal operation: pressed together with the Enter+password, it accesses by the introduction of the set-up parameters.</p> <p>Data input:shifts to the right the selection of the number displayed</p>
prg ○	Lights while programming the set-up parameters.
set ○	Lights while programming the preselection.
▲ ○	Not utilized.
▼ ○	Not utilized.
● 	Not utilized.
 + 	Access to the functions protected by password.

2 - 2 INPUTS DESCRIPTION

Inputs characteristics

Please refer to the chapter "Electrical characteristics" of the software leaflet "Hardware structure" enclosed to this manual

Terminal bloach	Name	Logical status of activation	Activation mode	Description
4	I2	ON	I	Count reset. When activated, the count showed is reset to zero.

Legend

I = Impulsive Signal.

Name	Terminal bloach	Description
+	1	Positive of transducers' power supply. Positive of voltage supplied by the instrument for the supply of the instruments' inputs and of the transducers
-	2	Negative of transducers' power supply. Negative of voltage supplied by the instrument for the supply of the instruments' inputs and of the transducers.
Vac	7	Voltage of instrument's power supply. Alternated voltage according to the code of your order.
Vac	8	Voltage of instrument's power supply. Alternated voltage according to the code of your order.
GND	9	Ground Connection. We recommend a conductor with Ø 4 mm.

COUNT INPUTS

Terminal bloach	Name	Logical status of activation	Description
5	F1	N	Input "phase 1" incremental transducer.
6	F1	N	Input "phase 2" incremental transducer.
For the characteristics of count inputs please refer to the chapter "Electrical characteristics" of the software leaflet "Hardware structure" enclosed to this manual			

Legend

N= Transducer with logic NPN

2 - 3 OUTPUTS

Characteristics of outputs

Please refer to the chapter "Electrical Characteristics" of the leaflet "Hardware structure" enclosed to this manual.

Terminal block	Name	Logical status of activation	Polarization terminal	Activation mode	Description
11	U1	ON	10	C	Preselectin targhet position. Access when the count is the same or major than to the preselection targhet position value.
12	U2	ON	10	C	Slow-down. This output is uset to reduce the speed of the axis when reaching the arrival point. It is activation when the count is minor to the slow down targhet position set to set-up.
13	U3	ON	10	C	Zero position. Access when the count is the same or minor to zero.




Legend

C= Continuous signal.

CHAPTER 3 SETTING FOR OPERATION

3 - 1 SET-UP

As these parameters set the operating mode of the instrument, access is restricted to the installer only. A password must be entered to access the programming, with the following procedure:





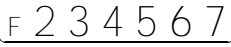
Description	Keyboard	Display
Access to the set-up programming.	 + 	<div style="border: 1px solid black; padding: 2px; display: inline-block;">H 0 0 0</div>
Enter the access code "235" and confirm with ENTER .	  	prog <input type="radio"/> = ON

FUNCTION	DISPLAY	DESCRIPTION
Decimal digits	<div style="border: 1px solid black; padding: 2px; display: inline-block;">P 0</div>	0 = Maximun displayng 999999. 1 = Maximun displayng 99999.9. 2 = Maximun displayng 9999.99. 3 = Maximun displayng 999.999. 4 = Maximun displayng 99.9999. 5 = Maximun displayng 9.99999.
Encoder resolution	<div style="border: 1px solid black; padding: 2px; display: inline-block;">L 4 0 0 0 0 0</div>	This parameter sets what the encoder revolution impulses must be multiplied by to have the length display in the desired unit of targhet position. Values from 0.00200 to 4.00000 can be entered, bearing in mind that the frequency of the PH phases must not exceed the instrument's maximum count frequency. N.B. Refer to the "Installation, maintenance and servicing manual".
Key CLEAR function	<div style="border: 1px solid black; padding: 2px; display: inline-block;">C 0</div>	0 = Functioning prevented 1 = Zero reset of the count (outputs U2 e U3 = ON).
Slow down Max. 9999	<div style="border: 1px solid black; padding: 2px; display: inline-block;">FL 9 9 9 9</div>	By this parameter is possible to establish the distance of the positioning level at which the axis must slow down to make easier the stop.
Recupero conteggio	<div style="border: 1px solid black; padding: 2px; display: inline-block;">A 0</div>	0 = At the switching off it does not recovery the count. 1 = At the switching off it recoveries the count.
Once the programming of the last function is achieved, the displaying in use before entering the set-up returns.		

CHAPTER 4
USE

4 - 1 WORK PROGRAMMES AND AUXILIARY FUNCTIONS

INTRODUCTION TARGHET POSITION

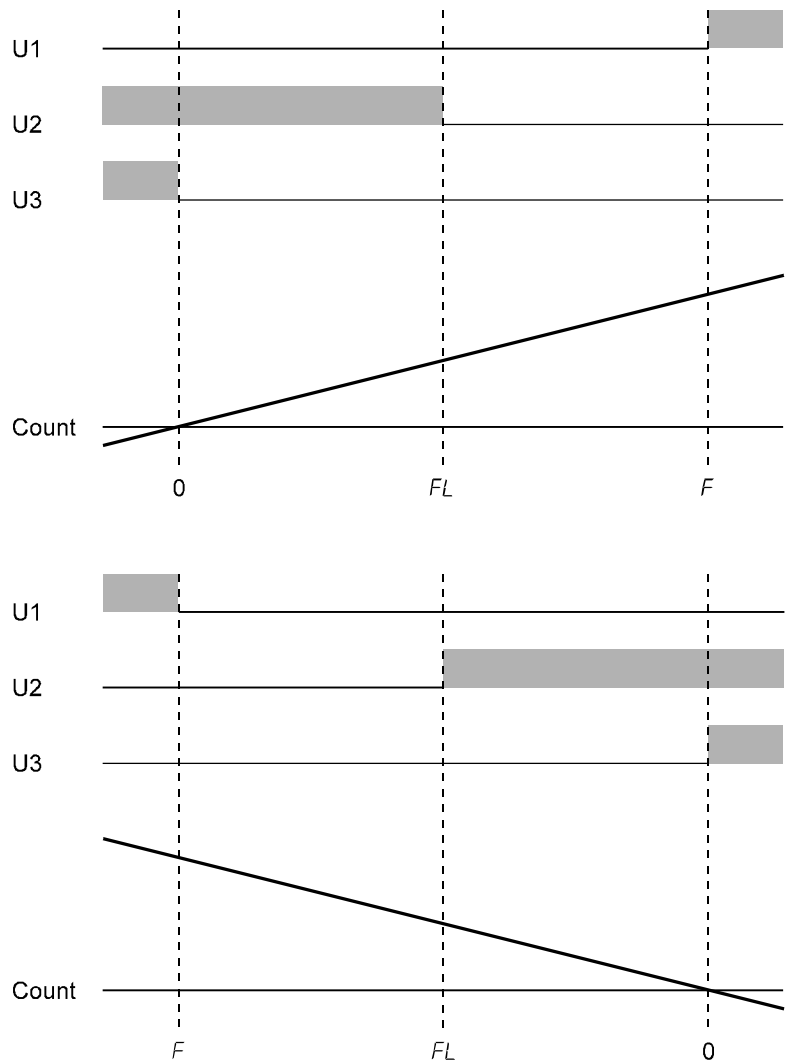
Description	Keyboard	Display
<p>Access the function for the introduction of the targhet position.</p> <p>Display of the targhet position currently in use. The operator can introduce the value required and confirm with ENTER. The screen returns to showing the display in use</p>	<p> x 2 sec.</p> <p>  </p>	<p></p> <p>set <input type="radio"/> = ON</p> <p>set <input type="radio"/> = OFF</p>

DISPLAYS

The instrument also visualizes negative targhets position but the preselection targhet position can be ongly positive.

4 - 2 TABLES AND GRAPHICS OF OPERATION

OPERATION DIAGRAM



FL = Slow Down
 F = Targhet position

U1 is energised with :
 Count ³ Targhet position preselectioned

U2 is energised with:
 Cuunt £ Rallentamento

U3 is energised with:
 Cuunt £ 0

CHAPTER 5

ASSISTANCE

5-1 INSTRUCTIONS ON HOW TO FILL UP THE FAX FOR TECHNICAL ASSISTANCE

In order to be able to provide a quick, specific and quality assistance, we need your help.

If you need QEM's assistance to face the eventual troubleshooting in your applications and even though you performed all instructions indicated in the manual of "Installation, maintenance and assistance", the problem still continues, please fill up every blank of the fax enclosed to the manual of Installation, maintenance and assistance and send it to QEM's Assistance Department.

In this way you shall allow our technicians to get the necessary elements to understand your problem (avoiding thus expensive telephone calls).

We thank you for your cooperation and here at QEM's we really wish you a good job.

REMARK

If you must send an instrument to be repaired, please strictly follow our instructions indicated here below:

- If possible, use the original packaging; in any case the packaging must protect the instrument against shocks due to transport.
- Insert into the package a detailed description of the malfunction you found and the part of wiring diagram which includes the instrument. In case the problem you discovered concerns data storage, please also include the instrument's programming (set-up, working levels, auxiliary parameters, etc.).
- If you need it, please explicitly require the quotation of charges for the repairing: if you do not ask for it, the charges shall be calculated as a whole.
- Our technicians shall give priority to the repairing of those instruments which have been sent according to the items listed above.

5 - 2 GUARANTEE

The guarantee is conform to the definitions of the general sales conditions.



This product is an electronic instrument and, therefore, should not be considered a machine. As a consequence, it is not subject to the requirements of EEC Directive 89/392 (Machine Directive). For this reason, we affirm that if the QEM instrument is used as a component of a machine, it may not be turned on if the machine does not satisfy the requirements of the Machine Directive.

The instruments marking does not relieve the customer from fulfilling the obligations of the law relative to the finished product.