

**USE AND INSTALLATION MANUAL FOR
ELECTRIC TWIN CHAIN ACTUATOR**

MPD



(02) 6280 4655
129 Gladstone Street,
Fyshwick ACT 2609
AUSTRALIA
sales@progressivecontrols.com.au
www.progressivecontrols.com.au

THIS MANUAL IS AN INTEGRAL PART OF THE ACTUATOR, IT IS IMPORTANT THAT BOTH THE INSTALLER AND THE USER READ AND UNDERSTAND ALL ITS PARTS.
THE MANUAL CONTAINS OPERATING INFORMATION, TECHNICAL DRAWINGS, WIRINGS DRAWINGS AND IT IS SUPPLIED IN ORDER TO HELP THE INSTALLATION IN ALL ITS STEPS.
IT MUST BE STORED UP WITH CARE IN CASE OF FUTURE REFERENCES AND UP TO THE DEMOLITION OF THE SAME.

EN

Rev. 1.0
October 2014

INDEX

- chap. 1 - CE DECLARATION OF CONFORMITY	page 11
- chap. 2 - PRODUCT GENERALITY	page 12
- chap. 3 - OTHER GENERALITY	page 13
- chap. 4 - TECHNICAL DESCRIPTION	page 14
- chap. 5 - INSTALLATION AND OPERATION	page 15
- chap. 6 - SAFETY	page 16
- chap. 7 - DRAWINGS AND WIRINGS	page 17

EC DECLARATION OF CONFORMITY

VIVIFLEX Srl declares under its full responsibility that the product named

ELECTRIC TWIN CHAIN ACTUATOR FOR WINDOW AUTOMATION **MPD SERIES**
models 230V and 24V
(serial numbers and year of construction are reported on label applied over each actuator)

to which this declaration refers complies to the following directives

2004/108/CE

Electromagnetic Compatibility Directive of the European Parliament and Council dated 15 December 2004 concerning the approximation of the laws of Member States relating to electromagnetic compatibility and that abrogates the Directive 89/336/CEE

Harmonized Standards applied:

CEI EN 55014-1 e 55014-1/A1 (EMISSION)

CEI EN 55014-1(irradiate,conducted,radiated power emissions); CEI EN 61000-3-2; CEI EN 61000-3-3

CEI EN 55014-2 - 55014-2/A1 - 55014-1/A2 (IMMUNITY)

CEI EN 61000-4-2; CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 61000-4-5; CEI EN 61000-4-6;
CEI EN 61000-4-11

RELATED DOCUMENTS:

CEI EN 60335-1 2008-07 Ed.3: Safety of electrical appliances in household and similar-safety
part 1: General Norms

CEI EN 60335-1/A13 2009-08: Safety of electrical appliances in household and similar-safety
parte 1: General Norms

CEI EN 60335-2-103 2005-07 Ed. 1. Safety of electrical appliances in household and similar-safety
part 2: particular norms for gate actuators, motorized doors and windows

Producer : VIVIFLEX Srl - Via Marconi 84/3 - 16030 AVEGNO (GE)
Tel. 0185/979055 - Fax 0185/979377 - Email info@viviflex.com

Date: 31 / 07 / 2014

Full name of the authorized person: Pozzo Fulvio

Signature

.....

PRODUCT GENERALITY

GENERALS

Before installing and using the actuator it is important to read and understand all parts of this manual by the installer and the user.

The manual is supplied as integral part of the actuator and it must be consulted in case of necessity and/or eventual future references; it must be stored up for the entire life of the actuator till its demolition.

The producer is not responsible for eventual damages to people, things and animals caused by the inobservance of the prescriptions reported on manual.

The installation of the actuator must be performed only by qualified technical personnel with specific skills in electrical and mechanical field including those provided from the legislation in force in the Country of installation.

This manual is owned of the producer; the spread of information such as drawings, diagrams, descriptions, etc. is prohibited and also the partial reproduction without specific approval of the producer.

WARRANTY

Warranty period is 24 months from delivery date and it declines in case of improper use of actuator, inobservance to what reported on this manual, use of spare parts or not original parts and in case of manumission or opening of actuator, removal of label with data referred to the actuator.

In case of necessity it is recommended to refer to manual and/or to contact the technical office for indications and suggestions.

TECHNICAL SERVICE

Technical service is performed directly by the dealer who has carried out the supply or by the producer.

RESPONSIBLE STAFF

Installer: authorized person to install and to put in service the actuator able to make electrical and mechanical interventions and so, to execute any kind of operation in presence of voltage (on frame, electrical box or control panel). He must know the legislation in force in the country where installation is done and to perform it in security and in accordance with the regulations.

User: person authorized to operate the actuator by remote controls and/or push buttons supplied by installer. He must be able to operate small operations of maintenance as motor cleanliness, restoring of the functionality in case of stop of the actuator in case of power failure or unscheduled stop of the same. The use of the actuator is absolutely not recommended to children or unable people; the producer is not responsible for damages to people, things and animals due to inobservance of this precaution.

PRODUCT LABEL

The label is a adhesive nameplate written in indelible way ad put on each single actuator that attests the conformity of the product to essential requisites asked by European Directives (CE mark). On it are indicated all commercials and technical data of reference as: producer data, type and model, technical data (voltage and intensity of electrical power supply, type of service, push/pull force, operating time duty cycle), IP grade protection, stroke length, colour, CE mark and conformity, serial number, year of production.

Cod.	la rimozione dell'etichetta annulla la garanzia removal of label voids warranty
www.viviflex.com VIVIFLEX s.r.l. Avegno (GE) Italy info@viviflex.com	attuatore a doppia catena - MPD twin chain actuator - MPD
N/S xxxxxxxx	Tensione/Voltage 230V (AC) 18W Corsa/Stroke 400mm
XX/XX/XX	Forza/Force 400N Colore/Colour xxxxxxxx Servizio/Duty cycle 20% Protezione/Class IP42 L= xxx
	CE

Cod.	la rimozione dell'etichetta annulla la garanzia removal of label voids warranty
www.viviflex.com VIVIFLEX s.r.l. Avegno (GE) Italy info@viviflex.com	attuatore a doppia catena - MPD twin chain actuator - MPD
N/S xxxxxxxx	Tensione/Voltage 24V (DC) 18W Corsa/Stroke 400mm
XX/XX/XX	Forza/Force 400N Colore/Colour xxxxxxxx Servizio/Duty cycle 20% Protezione/Class IP42 L= xxx
	CE

OTHER GENERALITY

BOX CONTENTS:

Each standard box contains:

- 1 actuator
- 1 complete kit for motor installation
- 1 use and instructions manual of actuator

upon receipt, it is always suggested to check the integrity of the box, that all parts listed are contained and are free from defects in manufacturing, that the actuator has not suffered any kind of damage incurred in transporting or storing.

in case of any kind of irregularity for any kind of reason should be detected it is strictly forbidden to install for any reason the actuator and you are asked to call immediately the dealer or the producer (in case of direct purchase).

INSTALLATION AND USE OF THE ACTUATOR:

Keep the box and the actuator out of the reach of children and unauthorized person avoiding they to use it.

The actuator must be used only for the open/close operations indicated on this manual; improper uses or not contemplated from producer are strictly prohibited.

The use of the actuator in rooms with potentially explosive atmosphere is strictly prohibited.

Both in vertical and horizontal position, the actuator and the chain must to be placed with a precision of +/- 1mm.

For a good installation follow the diagrams shown and place the chain bracket so that the point where the chain comes out is exactly opposite the actuator (**fig. 2**).

It is recommended not to install the actuator outside and not to submit it to bad weather or atmospheric agents.

The actuator has been designed only to perform automatically open/close operation for top and bottom hung windows, pivoting and skylights.

The opening of the window is automatic by push button electrically connected to the actuator.

FORMULAS FOR THE CALCULATION OF THE FORCE (THRUST AND TRACTIVE):

- top hung installation (1) and bottom hung installation (2)

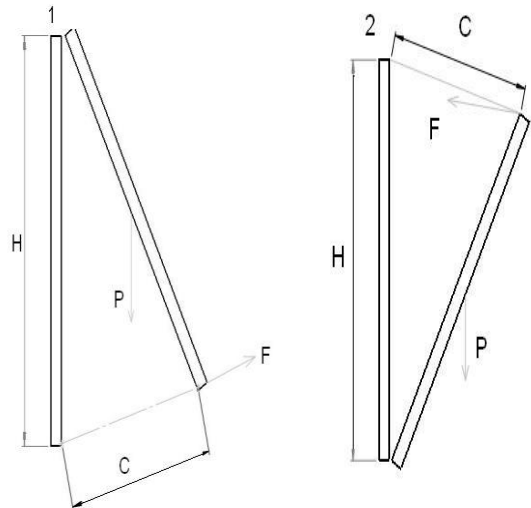
F= Force required for open/close operations

P= Weight of the window (mobile part)

C= Opening stroke of the window

H= Height of the window (mobile part)

$$F = (0,54 \times P) \times (C / H)$$

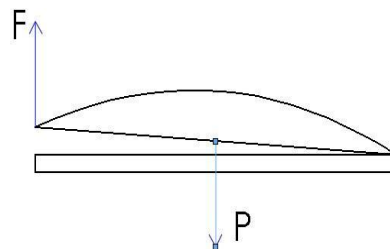


- domes or skylight (in horizontal way)

F= Force requie for open/close operations

P= Weigh of dome or skylight (mobile part)

$$F = (0,54 \times P)$$



TECHNICAL DESCRIPTION

technical data	MPD 230V	MPD 24V
Voltage	90 – 240 V ac	18-36 V dc
Frequency	50-60 Hz	- - -
Power	20W	
Force (Push - Pull)	400N	
Strokes (seletable)	150-250-300-350-400 mm	
Stroke (programmable)	12 – 400 mm	
Duty time (perative time)	20% on - 80% off (calculated on a cycle of 150 sec.)	
Parallel connection	Yes	
Temperature range	-15° C / +70° C	
Dimensions	MPD12 (L=1210)	35 x 1210 x 53 mm
	MPD16 (L=1610)	35 x 1610 x 53 mm
Connection	cable (1,2 m)	
Safety function	Yes	
Protection class	IP42	
Interaxis holes distance	L=1210 (740) - L=1610 (1140)	[mm]
Brackets	Yes	

ELECTRIC WIRINGS:

Please read instructions carefully before installation and check the tightness of the seals after the placement of the actuator.

It is also recommended, for a right placement of the actuator and bracket, to follow carefully the drawings reported on this manual (**fig.3**).

IMPORTANT INFORMATION:

Verify that the window is suitable (for characteristics, weight and dimension) to operate with a motor; in case of doubt, please consult our technicians.

It is also recommended to grease window hinges at least once a year after the installation of the actuator.

WARNING:

To avoid personnel injury during installation, don't connect the actuator to the power supply until installation is completed and checked.

When motors are combined to electronic control panels for automatic functioning, in consideration of the closure force of the system, the risk of damages exists.

- functioning voltage is indicated by producer on the label fixed on motor

DON'T CONNECT WITH OTHER VOLTAGES

- during cleaning and maintenance operations make sure that the power supply is unplugged from motors and control panels and also make sure that it can not be accidentally reconnected.

ACTUATORS USED IN SMOKE EVACUATION

If the actuator has been exposed to temperature over 90° C it is necessary a check by our technicians.

In case of problems, please contact us.

INSTALLATION AND FUNCTIONING

Introduction:

The twin chain actuator MPD series, is a product projected to solve the most common problems related to the motorization of the vertical and horizontal frames.

The versatility of the pivoting brackets allows the use in various configurations.

The regulation of the strokes is easy and immediate and include a range from 150 to 400 mm already provided from factory.

Moreover, exists the possibility to perform a customized stroke (in the range 12-400) in case those standard supplied were not enough.

Installation

In addition to that is written in the above paragraph, it is one more time recommended the importance that installation be done by specialized personnel.

The use of brackets and accessories not original nullifies the warranty coverage, please avoid to use them without the written advice from our technical office; for the correct installation of the actuator verify the overall dimensions reported on drawings (**fig. 1-4- e 5**) respectively for top and bottom hung installations.

Check that joint parts with frame and vent are solidly locked and all screws are fixed to avoid false movements.

The use of actuator parts for automation require the observance of the rules of safety in use.

Possible access to frame by personnel not authorized must be denied.

For cleaning make sure that eventual automatism (control panel wind/rain/thermostat/timer) be disconnected and in any case open the power circuit of voltage and isolate the actuator during the access of the maintenance personnel.

Stroke adjustment:

Generally the available strokes (150-400) are enough for all cases of automatism.

For selecting a new stroke it is necessary disconnect the motor from line. Select the desired stroke from knob and start to use the motor.

Nevertheless, if a "special" stroke not provided on knob is needed, act as follow (the motor must be already connected and fixed to the frame):

- positioning the knob on "U" position
- operate the close position and wait the lock of the moving part (note that the closure doesn't need regulations because it is auto-adjusting)
- cut off the voltage to the motor ("STOP" position not powered)
- operate the opening till the desired come out of the chain, return the motor in "STOP" and wait about 5 seconds
If the desired stroke is exceeded, it is possible to come back with the closure command.
- once the stroke is fixed, put the motor in "STOP" (not powered) and then operate the opening again; the motor will remain stopped producing a sound (by internal buzzer) indicating that the stroke has been memorized.
- from now on, the desired stroke is available on "U" position.

Important note:

To cancel the custom stroke from memory, it is sufficient to turn the knob in one of standard strokes (ex.: 150 or 250 mm) and operate the motor to open. This will provide to cancel the previous memorization of the stroke that can be repeated and diversified more times.

Safety function

Function that intervenes during the last 5 cm of closure, in case of an overcoming of 25% of the power delivered in that moment during the closing of the window.

Errors to be avoided

- the motor can not rotate freely to follow the window cause obstructions or impediments due to obstacles
- the cable prevents the correct rotation of the motor
- actuator misalignment with the moving part
- the weight of the window exceeds the force of the motor

Protections

the motor can enter in state of "locked" when :

- the duty time exceeds the 20% during the open/close operations
- an obstacle prevents the movement of the chain during open/close operations.

To exit from locked condition, break the main power and wait a minimum of 5 seconds before trying to re-start open/close.

SAFETY

GENERAL RECOMMENDATIONS

In case the window frame is installed from the ground at a height less than 2,5 m and so easily accessible, or in case the actuator is operated by remote commands as control panels, automatic control panels, etc., it needs to provide the installation of stop/emergency systems of the mobile part in case of emergence (emergency red button), in order to avoid the risk of squeeze in the operative zone of the actuator.

The labels put on each actuator have to be maintained intact, they don't have to be altered or covered by paints that prevent their consultation and should not be submitted to manipulations of any kind or be removed.

The personnel charged to the direct actioning of the actuator must be informed of all risks of accident and on eventual safety devices provided for the operators.

They must strictly comply with the accident prevention regulations in force in the country of use.

The actuator is not intended to be used by children, people with reduced physical and mental capacity, or by people with lack in experience or knowledge regarding the use of actuator unless they have been given, by the intermediation of a person responsible of their safety, of a surveillance or specific instructions.

It is recommended to follow strictly the content of the present manual and the regulations in force on the country where installation is done.

PROTECTION AGAINST ELECTRIC DISCHARGE

The actuator is protected against electric hazard from indirect and direct contacts.

The protection against the direct contacts has the intent to protect the personnel from dangers arising by contact with parts under voltage.

Protection against indirect contacts has the intent to protect the personnel by contact with conductive parts usually insulated but that could, cause a failure, become not insulated.

The protections available on actuator are the following:

- direct protection with inner shell containing the electronic board in plastic material
- external frames connected on ground for an adequate grade of protection

It is obligatory to preview on installation a differential thermal-magnetic switch (life safe) able to disconnect both poles of main supply (phase neuter).

RESIDUAL RISKS

The actuator doesn't present particular residual risks, anyway installer and user are informed that after installation on frame, the movements of it can accidentally generate the following risks:

- danger of squeeze or drag of parts that accidentally are insert between the mobile part and the fixed part of the frame
- the frequency of exposition is accidental and could happen when the installer or the user decide to make a voluntary action in contrast with recommendations reported on manual.

PROCEEDING

It is obligatory, as well as recommended, that in proximity of the automated frame and in its maneuvering area there are not people, things or animals whose safety can be put on risk; it is fundamental that movements of the actuator happen from a position that assure the complete visual inspection.

DISEGNI / DRAWINGS

fig. 1

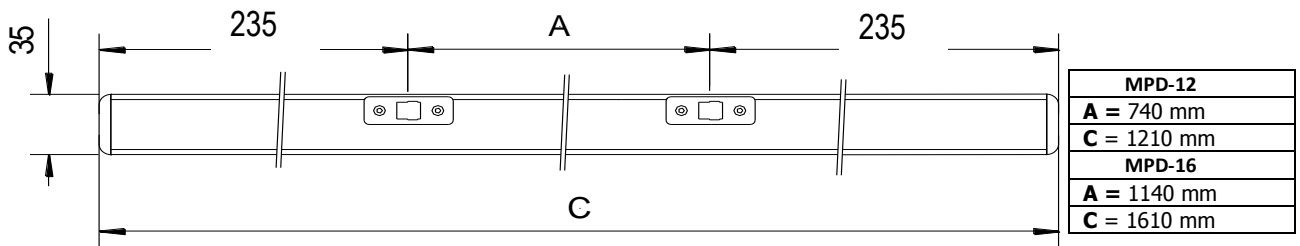
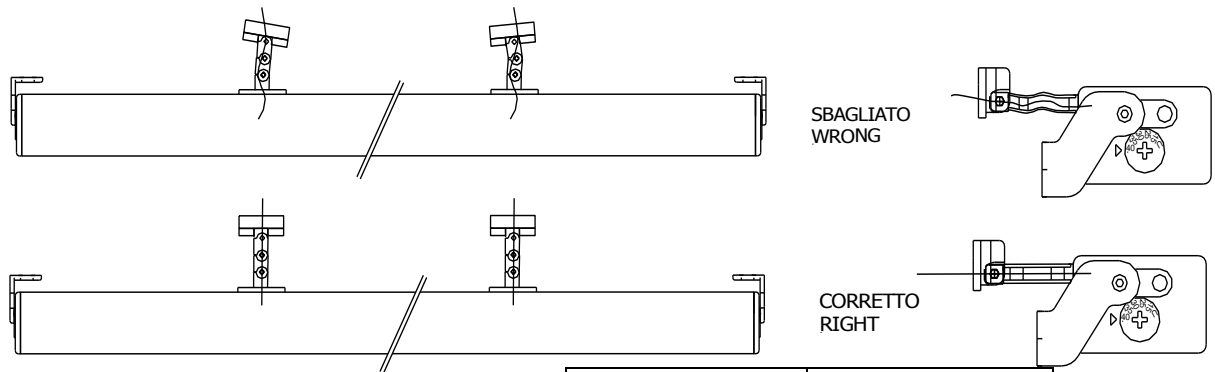
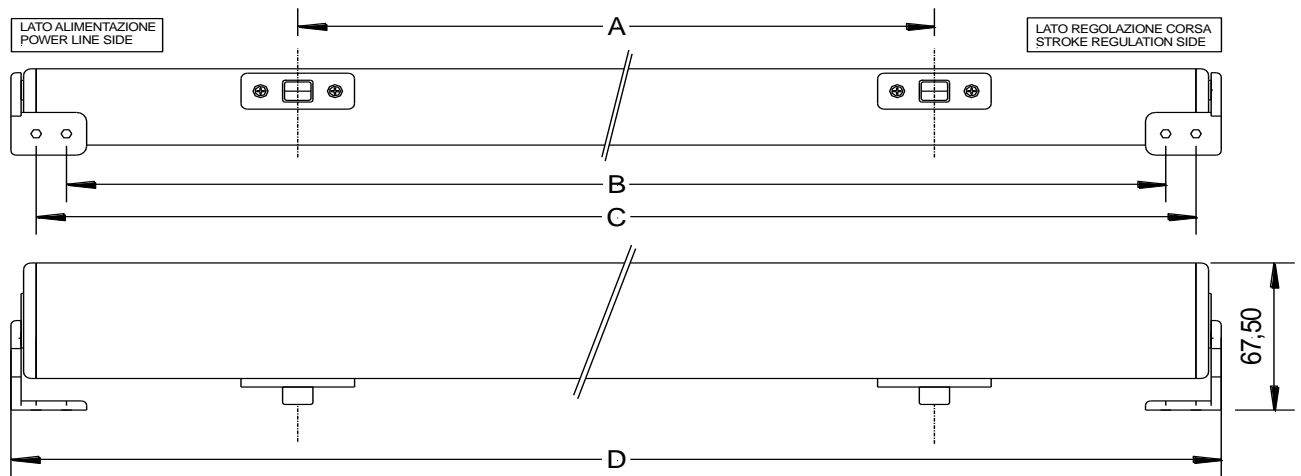


fig. 2



forature staffe motore - motor brackets holes

fig. 3



Installazione serramento a sporgere - top hinged

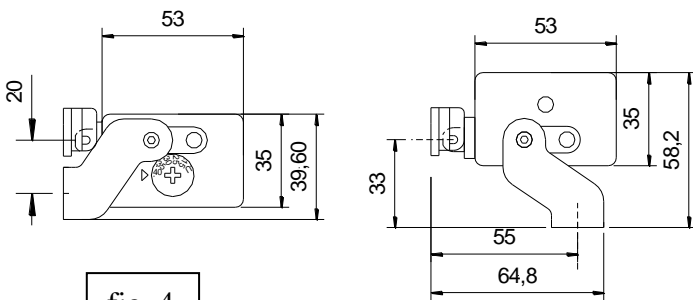


fig. 4

Installazione su serramento wasistas - bottom hinged

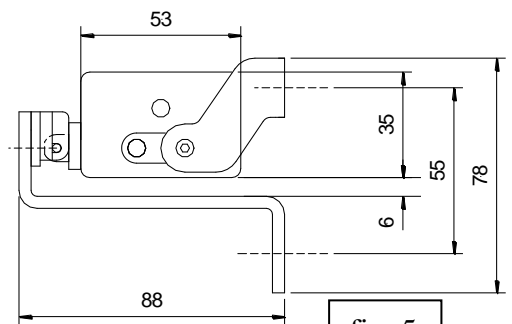


fig. 5

SCHEMA DI COLLEGAMENTO - WIRING CONNECTION

