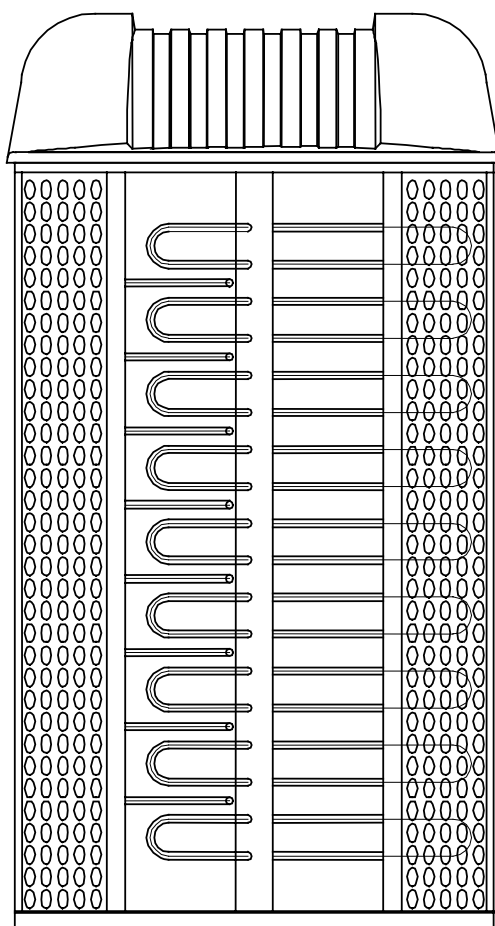


Manual

Bi-directional full-height turnstile

**Series ATF 6xx**  
**Series ATF 6xx/2**  
**Series ATF 6xx/C**



Manufacturer:

**AUTOGARD spol. s r.o.**  
Dornych 47, 617 00 Brno, CZ  
tel.: +420 545 214 149, fax.: +420 545 214 150  
e-mail: [autogard@autogard.cz](mailto:autogard@autogard.cz)  
<http://www.autogard.cz>

## 1. Acknowledgement

Thank you for choosing turnstile manufactured by Autogard company. All Autogard products are brought to market after long – term field tests in severe conditions.

All materials and components used are top quality.

Autogard products are designed for high performance, long lifetime and are nearly maintenance - free.

Autogard products are manufactured according to commonly respected technical standards and fully satisfy technical norms.

## 2. Purpose of use

Turnstile serves to control entrance to restricted areas.

## 3. Forbidden manipulation

**It is forbidden to burden turnstile's cross!**

## 4. Important notice

**Declaration of conformity and certification doesn't refer to entrance system reading devices or other control components, which may be connected to the turnstile with the exception of components supplied by manufacturer.**

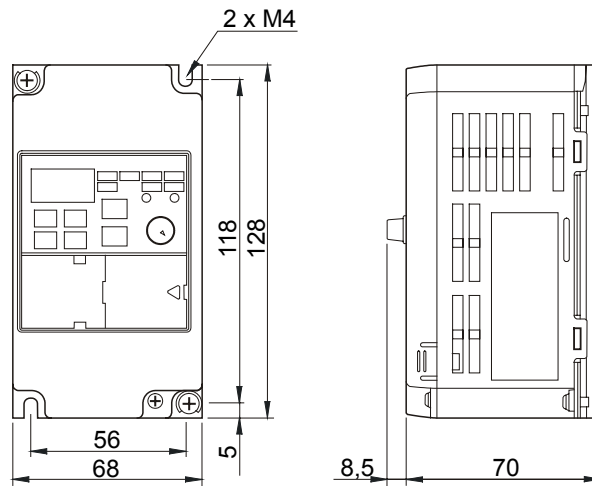
## 5. Basic description

Bi-directional turnstiles series ATF 6xx, series ATF 6xx/2 are designed to control access to various areas like administration buildings, sports facilities....

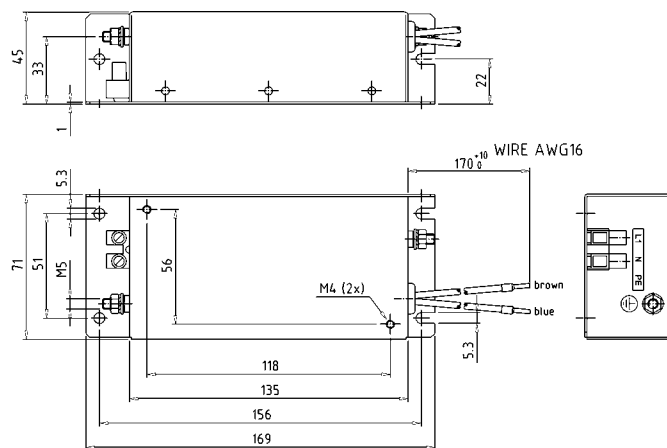
Turnstile is designed for intensive continuous performance. Turnstiles ATF 6xx and ATF 6xx/2 are controlled by microprocessor control unit which enables operation mode setting according to end user requirements. Turnstile is made of thin – walled profiles with glass fibre upper cover. Turnstile arms are thin – walled profiles and tubes weldment. Turnstiles have various finishing (powder coated, hot galvanized, stainless steel or combined)



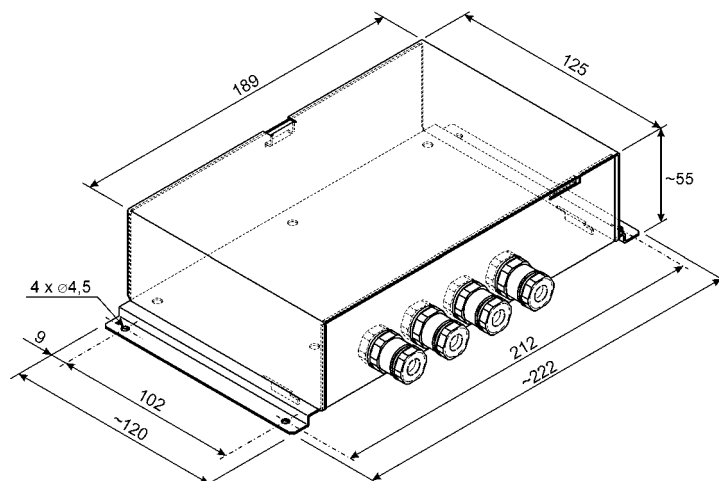
### Frequency converter



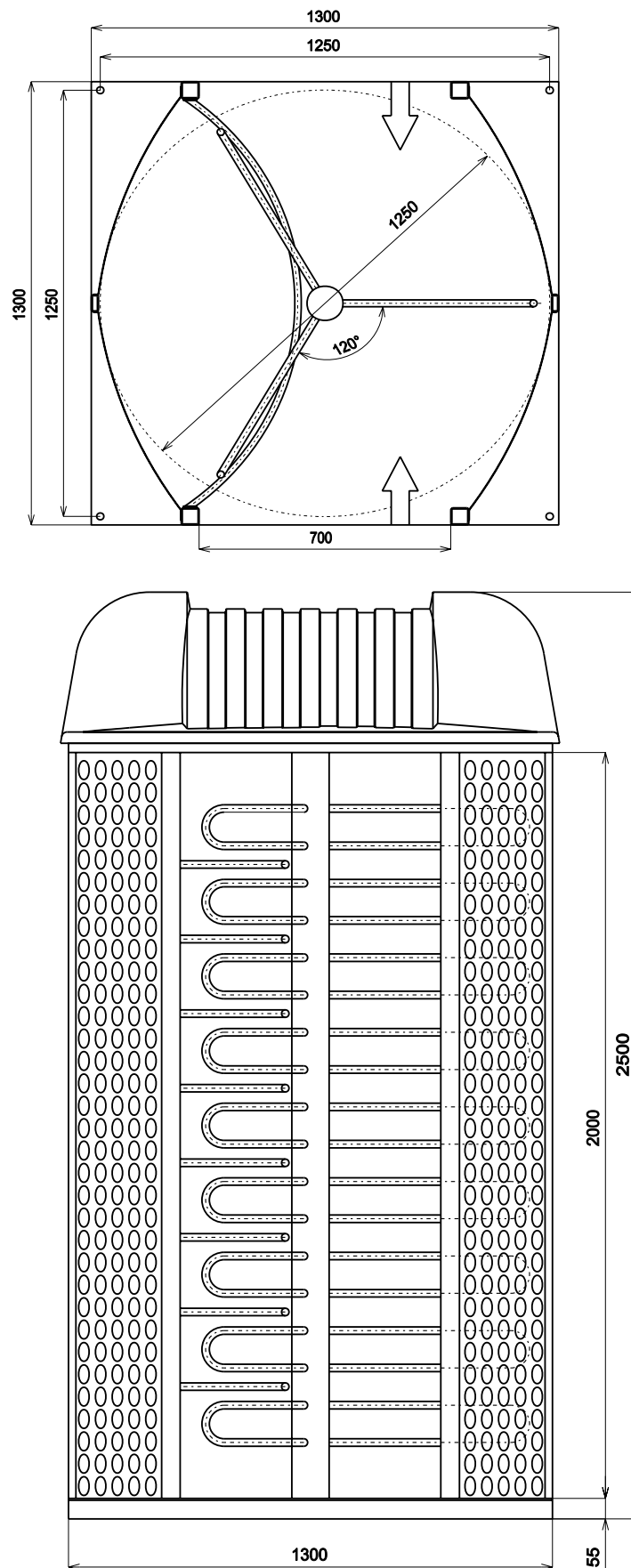
### Hamper filter



### Control unit TJ002.01 (in metal box)



## 7. Dimensional drawing



## 8. Turnstile installation

### **Important notice:**

**Only trained staff may install the turnstile.**

1. Before measuring the construction site has to be level and dirt free
2. Turnstile and other component axis have to be set
3. Hole centers are determined and holes for steel foundation screws M16x200 are drilled in the surface
4. Turnstile is fixed to the surface
5. Electric connections are done according to scheme
6. Control according to enforceable norms is done

## 9. Microprocessor control unit description and it's connection

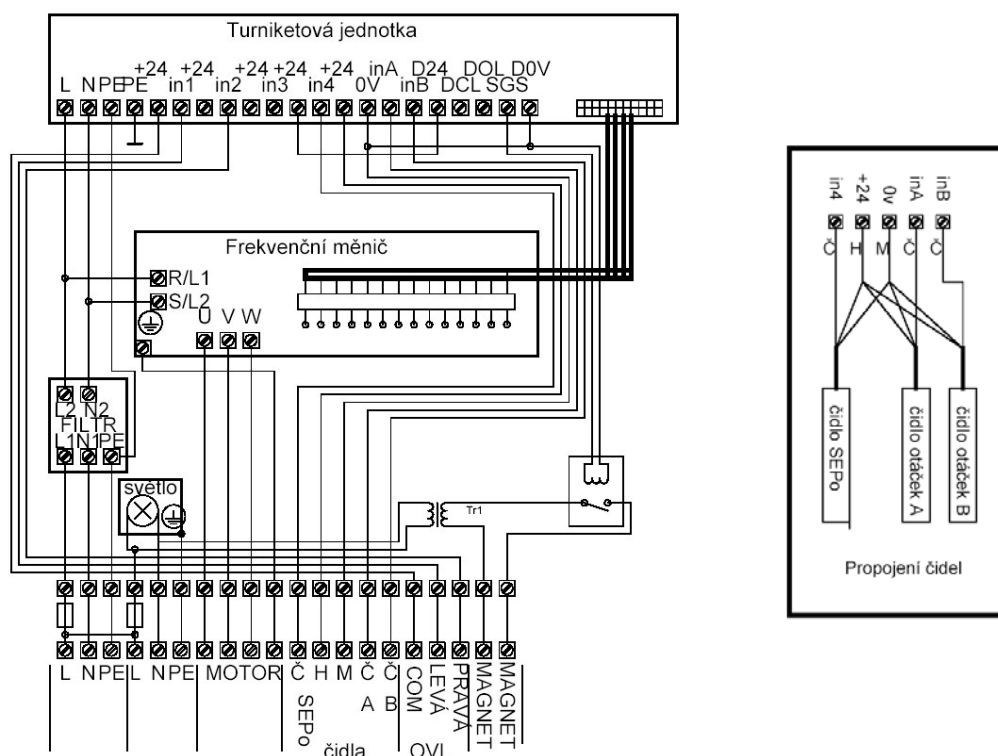
Turnstile drive is designed for bi-directional cross movement, step of cross is 120°. In case input for unblocking is switched on, turnstile waits for cross push in relevant direction. As soon as the cross is diverged from it's ground position turnstile cross starts to move in relevant direction into next ground position. In case cross is pushed when no input is unblocked, cross counter – moves back in ground position and in the case cross is pushed further than defined 2 position magnet is operated and turnstile is mechanically blocked against rotation.

Control unit TD01 consists of:

- Turnstile unit
- Frequency converter
- Hamper filter
- 3 sensors (2 are placed in the motor)

Control unit serves to control turnstile in terms of control signals evaluation.

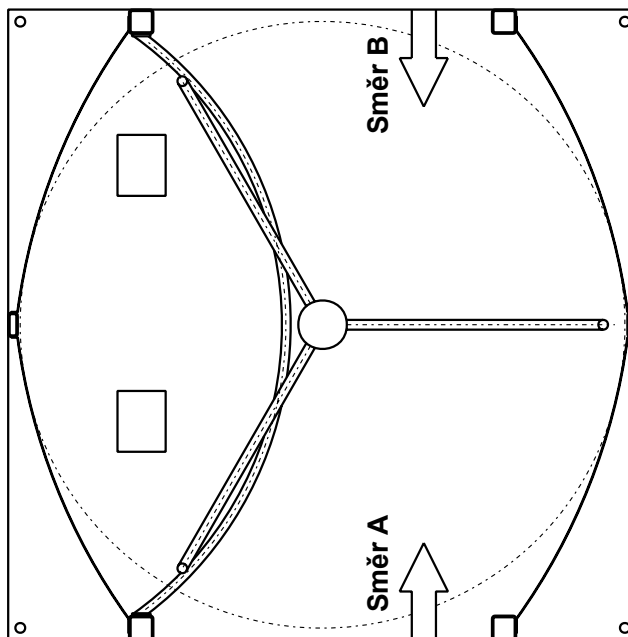
**Connection scheme**



**Connection clamps description** (from left to right)

Clamps on the control unit are connected from the manufacturer, only the clamps on small box described below are to be connected.

N	Turnstile power supply 230V AC/50Hz - neutral conductor
PE	Turnstile power supply 230V AC/50Hz - earth conductor
L	Turnstile light power supply 230V AC/50Hz - phase conductor
N	Turnstile light power supply 230V AC/50Hz - neutral conductor
PE	Turnstile light power supply 230V AC/50Hz - earth conductor
U	Turnstile motor supply output - phase conductor 1
V	Turnstile motor supply output - phase conductor 2
W	Turnstile motor supply output - phase conductor 3
PE	Turnstile motor supply output - earth conductor
Č	SEPO sensor input (turnstile position)
H	Sensor input
M	Sensor input
Č	Motor position sensor A input
Č	Motor position sensor B input
COM	Common control input
LEVÁ	Direction 1 turnstile release
PRAVÁ	Direction 2 turnstile release
MAGNET	Magnet connection output
MAGNET	Magnet connection output

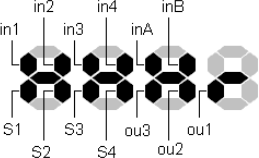


### Control unit TJ002.01 parameter setting

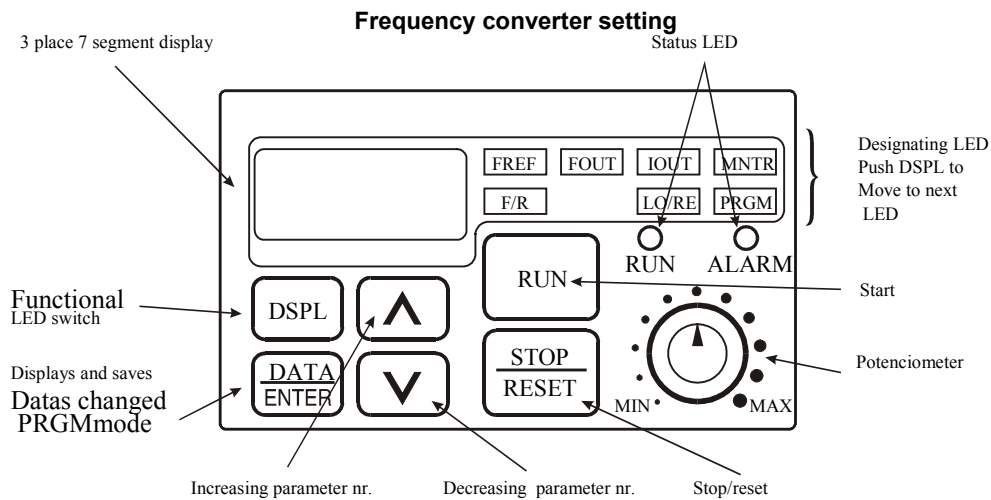
#### Setup button functions

- ESC - return from programming mode to operational mode  
(parameter disp value display)  
If the value changed in programming mode isn't confirmed by pushing PRG button it isn't stored
- PRG - programming mode – displays type of parameter  
(to enter programming mode it's necessary to hold for about 3 sec. PRG button)  
displays content of parameter chosen  
stores change of parameter
- UP - transition to next parameter  
rising of parameter content
- DOWN - transition to previous parameter  
lowering of parameter content

**!!!! IMPORTANT !!!!**  
**WE RECOMMEND NOT TO CHANGE CONTROL UNIT**  
**AND FREQUENCY CONVERTER SETTINGS**  
**WITHOUT MANUFACTURER ADVICE. PARAMETER**  
**CHANGE MAY RESULT IN INJURY, PRODUCT**  
**DAMAGE OR MALFUNCTION.**

<b>DiSP</b>	Data displayed 0 = nothing 1 = immediate position [pnd] 2 = converter output frequency [%] 3 = actual speed [%] 4 = frequency set [%] 5 = errors detected 6 = output and input status	Range: <b>0-6</b>	Unit	Setting example
				
<i>PEnd</i>	Distance between turnstile arms	<b>0-9999</b>	pnd	1661
<i>PdEc</i>	Point of retardation during turnstile revolution	<b>0-9999</b>	pnd	1400
<i>PoLo</i>	Minimum for overload control	<b>0-9999</b>	pnd	20
<i>PoLc</i>	Maximum for overload control	<b>0-9999</b>	pnd	1661
<i>Srun</i>	Normal speed of revolution	<b>5-100</b>	%	60
<i>Sdec</i>	Range speed	<b>5-100</b>	%	7
<i>SbAc</i>	Speed of stern foremost after overload	<b>5-100</b>	%	30
<i>SpSh</i>	Speed of push home (not used)	<b>5-100</b>	%	5
<i>SrEF</i>	Speed when searching reference	<b>5-100</b>	%	16
<i>SrG1</i>	Speed for 1 <sup>st</sup> level of regulation	<b>5-100</b>	%	20
<i>SrG2</i>	Speed for 2 <sup>nd</sup> level of regulation	<b>5-100</b>	%	60
<i>drEF</i>	Maximum length of referencing	<b>0-9999</b>	pnd	6460
<i>drG1</i>	End position divergence for regulation (1 <sup>st</sup> level)	<b>10-200</b>	pnd	30
<i>drG2</i>	End position divergence for regulation (2 <sup>nd</sup> level)	<b>100-400</b>	pnd	200
<i>diP1</i>	Limit before SEPo for InPo report	<b>2-100</b>	pnd	30
<i>diP2</i>	Limit after SEPo for InPo report	<b>2-100</b>	pnd	30
<i>dbAc</i>	Length of stern foremost after overload	<b>0-9999</b>	pnd	200
<i>dStr</i>	Length of pushing for turnstile start	<b>2-200</b>	pnd	20
<i>dSoL</i>	Speeds after overload difference	<b>10-80</b>	pnd	35
<i>tLim</i>	Time of entrance authorized	<b>1,0-20,0</b>	sec	10,0
<i>tioL</i>	Time after overload difference	<b>0,1-5,0</b>	sec	0,1
<i>tSPV</i>	Real speed measuring time tSPV = 75 000 000 / motor rev. / imp / Fmax motor rev. – motor revolutions 50 Hz imp – sensor generator division F max – changer n09 maximum frequency	<b>25 – 150</b>	ms	76
<i>tbAc</i>	Time of waiting after overload	<b>0,0-25,0</b>	sec	2,0
<i>tbuZ</i>	Time of authorized entry signalisation (0 = no limit)	<b>0,0-25,0</b>	sec	10,0
<i>tVLo</i>	Time of signal Vlow lasting	<b>0.0-25.0</b>	sec	2,0
<i>noAt</i>	Number of rotation attempts after overload	<b>1-10</b>	-	9

<i>din1</i> <i>din2</i> <i>din3</i> <i>din4</i>	0 – nothing	9 – bLoc NO, interferes EF and ER, regulates SEPo	
	1 – EF1 NO, revolution forward permitting, pulse	10 – bLoc NC, interferes EF and ER, regulates SEPo	
	2 – EF1 NC, revolution forward permitting, pulse	11 – Uloc NO, unblock active at 1	
	3 – ER1 NO, revolution backward permitting, pulse	12 – Uloc NC, unblock active at 0	
	4 – ER1 NC, revolution backward permitting, pulse	13 – Lath NO, stop active at 1	
	5 – EF2 NO, revolution forward permitting, permanent signal	14 – Lath NC, stop active at 0	
	6 – EF2 NC, revolution forward permitting, permanent signal	15 – SEPo NO, initial position sensor	
	7 – ER2 NO, revolution backward permitting, permanent signal	16 – SEPo NC, initial position sensor	
	8 – ER2 NC, revolution backward permitting, permanent signal		
<p>Each function can be assigned to one input max (except function 0) and simultaneous use of inverse functions is out of question (inverse functions are 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10, 11 and 12, 13 and 14, 15 and 16)</p>			
<i>dou1</i> <i>dou2</i> <i>dou3</i>	0 – nothing		
	1 – BZZ, authorized entry signalisation		
	2 – ALAR, alarm		
	3 – InPo, position around SEPo (for magnet) signalisation		
	4 – VLow, shortened signal InPo (for magnet)		
	5 – FoEn, active in case absolute value of distance from SEPo is $\geq drG2$ while regulating initial position (see chapter 4)		
<i>VerS</i>	SW version	- - - -	
<i>Lerr</i>	4 last ascertained errors	- - - -	
	0 = nothing		
	1 = warranted		
	2 = warranted		
	3 = maximum number of attempts when overload exceeded		
	4 = SEPo sensor closure before PdEc reached		
	5 = overload due to speed discrepancy		
	6 = error while referencing, departure from SEPo not succesfull		
	7 = sensor inA or inB malfunction		
	8 = warranted		
	9 = maximum length of referencing exceeded		
<i>Fact</i>	Fetching of preset parameters in operational memory	<b>9-18</b>	
	11 = set of parameters nr.1	14 = set of parameters nr.4	
	12 = set of parameters nr.2	15 = set of parameters nr.5	
	13 = set of parameters nr.3	16 = set of parameters nr.6	
<i>Hand</i>	0: operational status		
	1: testing mode, tl. UP – rotating „forward“, tl. DOWN – rotating „backward“ Decimal point is blinking on the display in testing mode, all images are functional. Control inputs are out of function.		



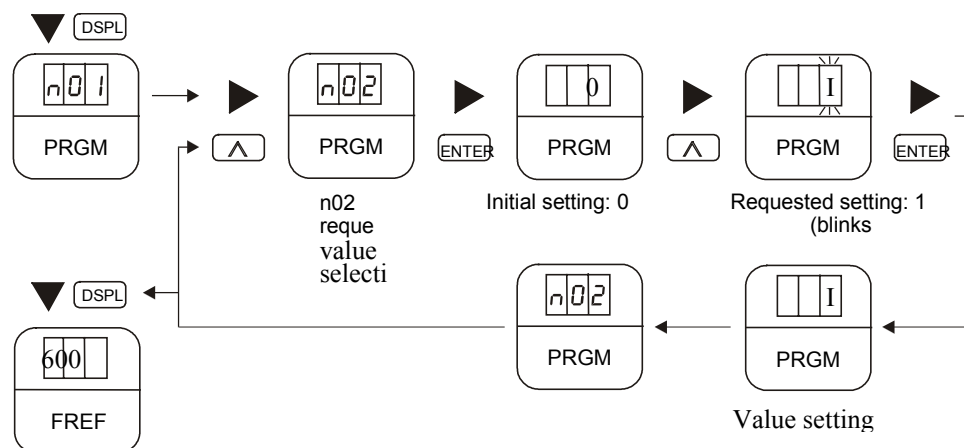
Designated LED description

FREF Frequency request Setting/monitor. (Green)	FOUT Output frequency Monitoring (Green)	IOUT Output current Monitoring (Green)	MNTR Programmable function – monitoring (Green)
F/R Option forwrd/backwrd (Green)		LO/RE Option board/terminal box (Red)	PRGM Programming mode (Red)

By red LED it is possible to change content only when converter is still.

Constant **n02** setting to value 1 example (converter control via control terminal box).

Some parameters can be changed only when converter is still and when starting signals on S1 and S2 aren't present



**Incorrect (too high) setting of converter constants especially n10, but even n13, n15 can result in high motor torques and inadmissible turnstile force, which may cause person injury or damages on mechanical parts of turnstile.**

Const.	Name	Range	Setting TD 01
N02	Method of starting	1 – 2	<b>1</b>
N03	Frequency request	1 – 6	<b>2</b>
N09	Maximum output frequency	50.0 – 400	<b>70.0</b>
N10	Maximum tension	0.1 – 255.0	200
N11	Concourse frequency	0.2 – 400.0	50.0
N12	Average output frequency	0,1 – 399	8.0
N13	Average output tension	0.1 – 255	55
N14	Minimum output frequency	0.1 – 10.0	2.5
N15	Minimum output tension	0.1 – 50	12
N16	Starting time 1	0.0 – 999	1
N17	Starting time 1	0.0 – 999	0.1
N18	Starting time 2	0.0 – 999	0.5
N19	Finishing time 2	0.0 – 999	0.0
N20	S – curve	0 – 4	2
N32	Nominal current of thermo protection	0 – 1,9 A	0.9
N33	Thermo protection characteristics	0,1,2	<b>0</b>
N34	Protection time constant	1 – 60 min	1
N37	Programmable input 3	0 – 22	<b>11</b>
N38	Programmable input 4	0 – 22	<b>12</b>
N40	Programmable output	0 – 18	6
N46	Modulation frequency	1 – 13	4
N53	Time of DC braking while stopping	0.0 – 25.5 s	<b>0.0</b>
N56	Starting overload protection	30 – 200 %	100
N57	Working overload protection	30 – 200 %	100
N59	Overload detection	0 – 4	3
N60	Overload detection level	30 – 200 %	90
N61	Overload detection time	0.1 – 10.0 s	0.1
N80	Tension limiter	0,1	1

## 10. Emergency turnstile unblocking

If necessary it is possible to unblock the turnstile in both directions in means of disconnecting from power supply. After disconnecting turnstile moves in both directions freely.

## 11. Opening and closing of cover

In case it is necessary to open cover proceed as following:

- fibre – glass cover is mounted to turnstile frame by means of winged suspensions which make folding up possible. Cover is secured with two screws against unwanted opening.
- to fold up the cover unscrew the two screws first
- fold up the cover
- secure the folded up cover against falling

## 12. Turnstile maintainance

We recommend to carry out periodic inspections of mechanism and all connections. Period of inspections is individual, depends on local climatic conditions and the intensity of turnstile operation. We recommend the period to be 1x in three months minimum.

The maintainance is easy. It is necessary to keep all parts clean, check consistency of connections, prevent harsh mechanical damage and attacks of aggressive agents (acids, lyes...).

In case of accident or damage we recommend to call supplier service.

