Ethernet(ASCII)	RS232(HEX) one way	IP command (ASCII)	Reply IP	Description
!N5 (!F5)	0xF0 0x01 (0x00)	Sequencer start(series group power on/off)	OK(0A)	N- on, F - off.
!N2 (!F2)	0xF0 0x21 (0x20)	Power on (off) group 2	OK(0A)	N- on, F - off.
!N3 (!F3)	0xF0 0x31 (0x30)	Power on (off) group 3	OK(0A)	N- on, F - off.
!N4 (!F4)	0xF0 0x41 (0x40)	Power on (off) group 4	OK(0A)	N- on, F - off.
!N5 (!F5)	0xF0 0x51 (0x50)	Power on (off) group 5	OK(0A)	N- on, F - off.
!N6 (!F6)	0xF0 0x61 (0x60)	Power on (off) group 6	OK(0A)	N- on, F - off.
!NT (!FT)	0xF0 0x71 (0x70)	Power on (off) group trigger out	OK(0A)	N- on, F - off.
		Console settings change		
!NF		Set filter option to Power ON.	OK(0A)	
!FF		Set filter option to OFF.	OK(0A)	
!ND		Set dumper option to Power ON.	OK(0A)	
!FD		Set dumper option to OFF.	OK(0A)	
!NC		Set DC filter option to Power ON.	OK(0A)	
!FC		Set DC filter option to OFF.	OK(0A)	
!NB	0xF0 0x81	Lock keys	OK(0A)	
!FB	0xF0 0x80	unlock keys	OK(0A)	
!N1	0xF0 0x11	Set group1 control to Always option	OK(0A)	Group 1 do not have individual relay and powers on with main input relay. Main relay can be always turned on. In this case group1 will be always powered. Or in case all other groups is turned off it can be also turned off. In this case group 1 will be powered if any other group is powered on only.
!F1	0xF0 0x10	Set group1 control to Any group option	OK(0A)	

!B1		emulate button 1 push	OK(0A)	
!B2		emulate button 2 push	OK(0A)	
!B3		emulate button 3 push	OK(0A)	
!B4		emulate button 4 push	OK(0A)	
!B5		emulate button 5 push	OK(0A)	
!*	0xF0 0xFF	Full RESET	OK(0A)	
!A		Auto stutus reports(1 Second)	OK(0A)	
		Requests		
!V		Voltage	!V=240(0A)	constant reply length
!?		Status request(see below)	!SF(0A)1F(0A)2F(0A)3F(0A)4F(0A)5F(0A)6F(0A)FF(0A)DF(0A)CF(0A)TiF(0A)ToF(0A)B1F(0A)B2F(0A)B3F(0A)B4F(0A)B5F(0A)IF(0A)LN(0A)	constant reply length, see detailes below
!P		Current consumption from group 1	!P=000(0A)	constant reply length
!L		Illumination	!L=0044(0A)	constant reply length
!C		DC voltage	!DC=+000(0A)	constant reply length
!H		Frequency	!HZ=50.01(0A)	constant reply length
!D		Distortion	!D=3%(0A)	constant reply length
!R		Flicker	!R=001(0A)	constant reply length
!T		On line time	!T=000d00h01m10s(0A)	constant reply length
Stutus detailes(!?)			Detailes	
SF (5N)		Sequencer, N-on F-off		
1F (1N)		Group 1, N-on F-off		
2F (2N)		Group 2, N-on F-off		
3F (3N)		Group 3, N-on F-off		
4F (4N)		Group 4, N-on F-off		
5F (5N)		Group 5, N-on F-off		
6F (6N)		Group 6, N-on F-off		
FF (FN)		Filter, N-on F-off		
DF (DN)		Filter, N-on F-off		
CF (CN)		Dumper, N-on F-off		
TiF (TiN)		Trigger in, N-on F-off		
ToF (ToN)		Trigger out, N-on F-off		
B1F (B1N)		Sensor button 1, N-on F-off		
B2F (B2N)		Sensor button 2, N-on F-off		
B3F (B3N)		Sensor button 3, N-on F-off		
B4F (B4N)		Sensor button 4, N-on F-off		
B5F (B5N)		Sensor button 5, N-on F-off		
B6F (B6N)		Sensor button 6, N-on F-off		
IF (IN)		Group 1 current sensor status, N- above threshold, F - below threshold	Threshold can be set in the console menu	
LF (LN)		illumination sensor status, N- above threshold, F - below threshold	Threshold can be set in the console menu	

After any command sent status will be replied.

In case of power loss reconnection is required. Most of control systems do not check connection status before any command sent.

Power issue status	
!NO POWER(0A)!V=213V(0A)	Power loss detected. !V=213V - voltage now. Sending every second
!LOW VOLTAGE:189V(0A)!V=216V(0A)!LOW VOLTAGE:189V(0A)	Low voltage detected !V=216V -voltage now. !LOW VOLTAGE:189V - voltage protection triggered at. Sending every second
At high voltage console turn off ethernet module power. This state can be detected by no replay after sending status request	

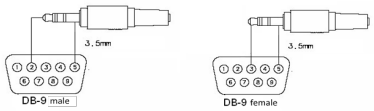
Limits:
- <3 commands at one pocket
- delay between packets >0.5 seconds.
- Next status request can be done after 3 seconds or more
- While console in the settings menu no control is available

TCP servet port: 20108
Reset Timeout : set to 0 in web page if connections drops after some time.

RS232
command consists of 2 bytes
HEX format.
First byte is console address(F1, F2...), F0 - general call.
Address can be set in the menu.
Up to 9 consoles can be connected at one port.

speed: 9600
bits: 8
stop bits: 1.
no flow control and checks

Trigger/rs232 input is optically isolated
cable length more then 10m can make troubles



IR, starting from firmware V1.3	
!i11	Send command 1, second number is send mode: 0...7. See in the user manual.
!i20	Send command 2, second number is send mode: 0...7. See in the user manual.
!i35	Send command 3, second number is send mode: 0...7. See in the user manual.
!i41	Send command 4, second number is send mode: 0...7. See in the user manual.
!i56	Send command 5, second number is send mode: 0...7. See in the user manual.
!i60	Send command 6, second number is send mode: 0...7. See in the user manual.
!i70	Send command 7, second number is send mode: 0...7. See in the user manual.
!i1	Command 1 recieved
!i2	Command 2 recieved
!i3	Command 3 received
!i4	Command 4 recieved
!i5	Command 5 recieved
!i6	Command 6 recieved
!i7	Command 7 recieved