

ILC LightLEEDer Protocol Open

Revision 1.0 29-Aug-2011

Data format: [csddccnnn...n] [- Start of command
 cs - Check sum
 dd - Destination node address (hex)
 cc - Command code (hex)
 nnn...n - Data
] - End of command

Check sum is a cylindrical redundancy check of bytes 4 through EOC.

Formula:

cs starts with an \$A5

Each byte from 4 though EOC

 cs = cs rotated right 1 bit (bit 0 rolls to bit 7)

 cs = cs + next byte

endif

cs = lbyte of cs

A controller will not respond if the data packet is bad.

Check sum is ignored if cs = “—” (Equates to \$56)

Data returning from controllers contains the same type check sum.

All data is ignored until a [is received.

Host USB/Ethernet port

Address 00 is global with response.

Address FF is global with no response.

Baud rate is 38,400, no parity, 8 data bits, 1 stop bit

Panels process command and respond.

Panels process command, but do not respond.

- 00 Send 32 bit panel run time (in seconds)**
Command [csdd00]
Response <cs{32 bit run time}>
4-11 run time in seconds (32 bits/4 bytes/8 chars)
- 01 Set time/date (day of week is calculated from date)**
Command [csdd01hhmmssMMDDYY]
8,9 hh hour (00h-17h)
10,11 mm minute (00h-3Bh)
12,13 ss second (00h-3Bh)
14,15 MM month (01h-0Ch)
16,17 DD date (01h-1Fh)
18,19 YY year (00h-63h)
Response <cs>
- 02 Send time/date**
Command [csdd02]
Response <csghmmssMMDDYYd>
4,5 hh hour (00h-17h)
6,7 mm minute (00h-3Bh)
8,9 ss second (00h-3Bh)
10,11 MM month (01h-0Ch)
12,13 DD date (01h-1Fh)
14,15 YY year (00h-63h)
16 d day of week (0h-6h)
- 10 Turn on/off relay(s)**
Command [csdd10nna]
8,9 nn relay number (00h-3Fh = 01 to 64 or FFh = all)
10 a action (0=off 1=on)
Response <cs>
- 11 Turn on/off relay(s) (Off based on timer output type)**
Command [csdd11nna]
8,9 nn relay number (00h-3Fh = 01 to 64 or FFh = all)
10 a action (0=off 1=on)
Response <cs>
- 12 Turn on/off a group (panel level)**
Command [csdd12nna]
8,9 nn group number (00h-FFh = 001 to 256)
10 a action (0=off 1=on)
Response <cs>
- 13 Turn on/off a group (panel level) (Off based on timer output type)**
Command [csdd13nna]
8,9 nn group number (00h-FFh = 001 to 256)
10 a action (0=off 1=on)
Response <cs>
- 14 Activate a preset (panel level)**
Command [csdd14nn]
8,9 nn preset number (00h-FFh = 001 to 256)
Response <cs>

18	Send dimmer output status		
	Command	[csdd18dd]	
		8,9 dd	device number (00-0f = device 01-10)
	Response	<css1a1s2a2s3a3s4a4>	
		4,5 s1	output 1 setpoint
		6,7 a1	output 1 actual
		8,9 s2	output 2 setpoint
		10,11 a2	output 2 actual
		12,13 s3	output 3 setpoint
		14,15 a3	output 3 actual
		16,17 s4	output 4 setpoint
		18,19 a4	output 4 actual
19	Force dimmer output status		
	Command	[csdd19ddospf]	
		8,9 dd	device number (00-0f = device 01-10)
		10 o	output number (0-3 = output 1-4)
		11,12 sp	setpoint (00-ff)
		13 f	0=fade 1=jump
	Response	<cs>	
1A	Send motor output status		
	Command	[csdd1Add]	
		8,9 dd	device number (00-07 = device 01-08)
	Response	<csss>	
		4,5 ss	motor status bits
			bits 1,0 output 1 status (0-off 1-neg 2-pos)
			bits 3,2 output 2 status (0-off 1-neg 2-pos)
			bits 5,4 output 3 status (0-off 1-neg 2-pos)
			bits 7,6 output 4 status (0-off 1-neg 2-pos)
1B	Force motor output status		
	Command	[csdd1Bddopttt]	
		8,9 dd	device number (00-07 = device 01-08)
		10 o	output number (0-3 = output 1-4)
		11 p	0=no change 1=pos 2=neg 4=stop
		12-14 ttt	time (000-fff) 0=latched >0=ttt x .1 sec
	Response	<cs>	
1C	Send relay(s) runtime		
	Command	[csdd1Crrnn]	
		8,9 rr	relay number (00-3f) (First relay if nn>0)
		10,11 nn	number of relay runtimes to send (00-1f = 1-32(max))
	Response	<cs tttt...>	
		4-7 tttt	relay runtime in minutes
		(8-?) tttt	additional relay runtimes
1D	Clear all relay runtimes		
	Command	[csdd1D]	
	Response	<cs>	

- 24 Send device input status (hardware/program/current type)**
Command [csdd24dd]
8,9 dd device (00-ff)
Response <cs h h h h q q q q t t t t t t t t p c >
4-7 h h h h hardware off-on input status for 8 inputs (16 bits/4chars)
8-11 p p p p program off-on input status for 8 inputs (16 bits/4chars)
12-19 t t t t t t t input types (1 char 0-f for each input)
20-21 p c raw pc level
- 25 Send relay status and relay lock status**
Command [csdd25]
Response <cs { 16 chars } { 16 chars } >
4-19 relay status (64 bits/8 bytes/16chars)
20-35 relay lock status (64 bits/8 bytes/16chars)
- 26 Send group status (panel level status)**
Command [csdd26]
Response <cs { 64 chars } >
4-67 group status (256 bits/32 bytes/64chars)
- 27 Send preset status (panel level status)**
Command [csdd27]
Response <cs { 64 chars } >
4-67 preset status (256 bits/32 bytes/64chars)
- 28 Send photocell levels**
Command [csdd28]
Response <cs { 128 chars } >
4-131 raw photocell levels (64 bytes/128chars)
- 44 Set external input disable bits**
Command [csdd44ddb]b
8,9 dd device 00-3f
10,11 bb disable bits
Response <cs >
- 45 Pass command to network and wait up to 2.5 seconds for response (Network controller only)**
Command [csdd45 { command }]
{ command } must be entire command without the [cs and]
Response <cs >

Note: C45 is used for host PC commands going into the network from through the NC
Example host communications command to get relay status (C25) from node E6 through NC:
[--0045nnE625]
The NC will wait up to 2.5 seconds for a response to the command from the panel.
Any returned data will be sent to the host.

- 48 Pass global command to network with no response (Network controller only)**
Command [csdd48 { command }]
{ command } must be entire command without the [cs and]
Response <cs >

Note: C48 is used for global host PC commands going into the network from through the NC
Example host communications command to get set preset 001 (C14) through NC:
[--0048FF1400]
No data is returned from the NC