Developer Notes
Global Line

Plug-in Dimmer,

(France: 2632-422 - Dev 0x01 / Sub 0x0B)
(Germany: 2632-432 - Dev 0x01 / Sub 0x0F)
(UK: 2632-442 - Dev 0x01 / Sub 0x11)
(Aus/NZ: 2632-522 - Dev 0x01 / Sub 0x12)

Plug-in Relay,

(France: 2633-422 - Dev 0x02 / Sub 0x2D)
(Germany: 2633-432 - Dev 0x02 / Sub 0x30)
(UK: 2633-442 - Dev 0x02 / Sub 0x35)
(Aus/NZ: 2633-522 - Dev 0x02 / Sub 0x36)

DIN Rail Dimmer,

(915 MHz: 2452-222 - Dev 0x01 / Sub 0x34)
(869 MHz: 2452-422 - Dev 0x01 / Sub 0x36)
(921 MHz: 2452-522 - Dev 0x01 / Sub 0x37)

DIN Rail Relay,

(915 MHz: 2453-222 - Dev 0x02 / Sub 0x2E)
(869 MHz: 2453-422 - Dev 0x02 / Sub 0x33)
(921 MHz: 2453-522 - Dev 0x02 / Sub 0x34)

Micro Module Dimmer,

(915 MHz: 2442-222 - Dev 0x01 / Sub 0x35)
(869 MHz: 2442-422 - Dev 0x01 / Sub 0x38)
(921 MHz: 2442-522 - Dev 0x01 / Sub 0x39)

Micro Module Relay,

(915 MHz: 2443-222 - Dev 0x02 / Sub 0x2F)
(869 MHz: 2443-422 - Dev 0x02 / Sub 0x31)
(921 MHz: 2443-522 - Dev 0x02 / Sub 0x32)

Version 004

July 18, 2012

Revision History

Rev	Date	Comments
001	4/17/12	Initial Release
002	6/28/12	Updated command list
003	7/3/12	Fixed typos
004	7/18/12	Added DevCat and SubCats and Updated Command List

Table of Contents

Firmware Description

INSTEON Commands Supported

Standard length common INSTEON commands:

All direct commands will be ignored if the sender's ID is not in the I2CS device's database with the exceptions below. The Global Line will reply with a NAK and 0xFF in cmd2 to indicate that the ID is not in the database.

Standard length Global Line INSTEON commands:
Assign to ALL-Link Group Command
Description: Sent when holding down the SET Button for 3 seconds on the device. Blinks the LED green for 4 minutes or until linked to another device.
Example (Hex): AA BB CC XX YY ZZ CF 01 01 (where AA.BB.CC is the Device's ID)

SD Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Assign to ALL-Link Group	From Device	Device's ID	0xXX (DevCat), 0xYY (SubCat), 0xZZ (firmware revision)	Broadcast	0x01	0x00 -> 0xFF (hardware revision)	Sent when holding down SET Button for 3 seconds. Group number for Global Line is 0x01

Plug-In Dimmer:

00 10 3A 01 0F C1 8F 01 00 0A
00 10 3A 01 0F C1 8B 01 00 0A
00 10 3A 01 0F C1 8B 01 00 1A
00 10 3A 01 0F C1 87 01 00 0A
00 10 3A 01 0F C1 83 01 00 0A
00 10 3A 01 0F C1 83 01 00 1A

Plug-In Relay:

00 20 66 02 30 C1 8F 01 00 0A
00 20 66 02 30 C1 8F 01 00 1A
00 20 66 02 30 C1 8B 01 00 0A
00 20 66 02 30 C1 87 01 00 0A
00 20 66 02 30 C1 87 01 00 1A
00 20 66 02 30 C1 83 01 00 0A

Micro Module Dimmer:

```
9/28/2012 08:32:53.880 [RX] - 02 50 1F D5 33 01 35 C3 8B 01 00
INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Micro Module Relay:

1F D3 B3 02 2F C1 8F 01 00 0A
1F D3 B3 02 2F C1 8F 01 00 1A
1F D3 B3 02 2F C1 8B 01 00 0A
1F D3 B3 02 2F C1 87 01 00 0A

Din Rail Dimmer:

11 CC CE 01 34 C1 8F 01 00 0A
11 CC CE 01 34 C1 8B 01 00 0A
11 CC CE 01 34 C1 8B 01 00 1A
11 CC CE 01 34 C1 87 01 00 0A
11 CC CE 01 34 C1 83 01 00 0A
11 CC CE 01 34 C1 83 01 00 1A

Din Rail Relay:

11 CC F8 02 2E C1 8F 01 00 0A
11 CC F8 02 2E C1 8B 01 00 0A
11 CC F8 02 2E C1 8B 01 00 1A
11 CC F8 02 2E C1 87 01 00 0A
11 CC F8 02 2E C1 83 01 00 0A
11 CC F8 02 2E C1 83 01 00 1A

Delete from ALL-Link Group Command
Description: Sent when holding down the SET Button for 3 seconds on the device, then pressing and holding the set button for 3 seconds. Blinks the LED red for 4 minutes or until unlinked from another device.
Example (Hex): AA BB CC XX YY ZZ CF 02 01 (where AA.BB.CC is the Device's ID)

Delete from ALL-Link Group	From Device	Device's ID	0xXX (DevCat), 0xYY (SubCat), 0xZZ (firmware revision)	Broadcast	0x02	0x01	Group number for Global Line is 0x01

Ping Command
Description: Same as holding down the SET Button for 3 seconds on the device, then pressing and holding the set button for 3 seconds. Blinks the LED red for 4 minutes or until unlinked from another device.
Example (Hex): AA BB CC DD EE FF 0F 0A 01 (where AA.BB.CC is the Device's ID, DD.EE.FF is the Sender's Id)

Ping	To device	Sender's ID	Device's ID	Direct	0x0F	0x00 -> 0xFF (Don't Care Value)	
	Response	Device's ID	Sender's ID	Ack	0x0F	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:00:02.435 [TX] - 02 62 00 10 3A 0F 0F 00
7/25/2012 11:00:02.458 [RX] - 02 62 00 10 3A 0F 0F 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 0F 00  INSTEON STD RX
 Ping
```

Plug-In Relay:

```
7/25/2012 10:16:09.375 [TX] - 02 62 00 20 66 0F 0F 00
7/25/2012 10:16:09.392 [RX] - 02 62 00 20 66 0F 0F 00 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 0F 00  INSTEON STD RX
 Ping
```

Micro Module Dimmer:

```
9/28/2012 08:33:43.711 [TX] - 02 62 1F D5 33 0F 0F 00
9/28/2012 08:33:43.738 [RX] - 02 62 1F D5 33 0F 0F 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 0F 00  INSTEON STD RX
 Ping
```

Micro Module Relay:

```
7/23/2012 11:31:43.757 [TX] - 02 62 1F D3 B3 0F 0F 00
7/23/2012 11:31:43.773 [RX] - 02 62 1F D3 B3 0F 0F 00 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 0F 00  INSTEON STD RX
 Ping
```

Din Rail Dimmer:

```
7/30/2012 10:22:18.597 [TX] - 02 62 11 CC CE 0F 0F 00
7/30/2012 10:22:18.624 [RX] - 02 62 11 CC CE 0F 0F 00 06  INSTEON STD
TX
02 50 11 CC CE 18 D3 21 2B 0F 00  INSTEON STD RX
 Ping
```

Din Rail Relay:

```
7/26/2012 17:11:57.073 [TX] - 02 62 11 CC F8 0F 0F 00
7/26/2012 17:11:57.086 [RX] - 02 62 11 CC F8 0F 0F 00 06  INSTEON STD
TX
```

```
02 50 11 CC F8 18 D3 21 2B 0F 00  INSTEON STD RX
 Ping
```

ID Request Command

Description: Same as holding down the SET Button for 3 seconds on the device, then pressing and holding the set button for 3 seconds. Blinks the LED red for 4 minutes or until unlinked from another device.

Example (Hex): AA BB CC DD EE FF 0F 0A 01 (where AA.BB.CC is the Device's ID, DD.EE.FF is the Sender's Id)

ID Request	To device	Sender's ID	Device's ID	Direct	0x10	0x00 -> 0xFF (Don't Care Value)	
	Response	Device's ID	Sender's ID	Ack	0x10	Same as sent	
	Sent from Device	Device's ID	0xXX (DevCat), 0xYY (SubCat), 0xZZ (firmware revision)	Broadcast	0x01	0x00	Same as holding down SET Button for 3 seconds, but device not in linking mode

Plug-In Dimmer:

```
7/25/2012 11:00:19.088 [TX] - 02 62 00 10 3A 0F 10 00
7/25/2012 11:00:19.115 [RX] - 02 62 00 10 3A 0F 10 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 10 00  INSTEON STD RX
 ID Request
02 50 00 10 3A 01 0F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 00 10 3A 01 0F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Plug-In Relay:

```
7/25/2012 10:16:15.372 [TX] - 02 62 00 20 66 0F 10 00
7/25/2012 10:16:15.390 [RX] - 02 62 00 20 66 0F 10 00 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 10 00  INSTEON STD RX
 ID Request
02 50 00 20 66 02 30 C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 00 20 66 02 30 C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Micro Module Dimmer:

```
9/28/2012 08:33:49.981 [TX] - 02 62 1F D5 33 0F 10 00
```

```
9/28/2012 08:33:49.993 [RX] - 02 62 1F D5 33 0F 10 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 10 00  INSTEON STD RX
 ID Request
02 50 1F D5 33 01 35 C3 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 1F D5 33 01 35 C3 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Micro Module Relay:

```
7/23/2012 11:31:50.349 [TX] - 02 62 1F D3 B3 0F 10 00
7/23/2012 11:31:50.363 [RX] - 02 62 1F D3 B3 0F 10 00 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 10 00  INSTEON STD RX
 ID Request
02 50 1F D3 B3 02 2F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 1F D3 B3 02 2F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:12:04.624 [TX] - 02 62 11 CC F8 0F 10 00
7/26/2012 17:12:04.649 [RX] - 02 62 11 CC F8 0F 10 00 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 10 00  INSTEON STD RX
 ID Request
02 50 11 CC F8 02 2E C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

SD Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Status Request	To device	Sender's ID	Device's ID	Direct	0x19	0x00	
	Response	Device's ID	Sender's ID	Ack	Database Delta	On level	

Plug-In Dimmer:

```
7/25/2012 11:00:50.508 [TX] - 02 62 00 10 3A 0F 19 00
7/25/2012 11:00:50.529 [RX] - 02 62 00 10 3A 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 00 10 3A 18 D3 21 2B 02 00  INSTEON STD RX
02 50 00 10 3A 01 0F C1 87 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 00 10 3A 00 00 01 CB 11 00  INSTEON STD RX
02 50 00 10 3A 18 D3 21 41 11 01  INSTEON STD RX
02 50 00 10 3A 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

7/25/2012 11:01:10.354 [TX] - 02 62 00 10 3A 0F 19 00
7/25/2012 11:01:10.377 [RX] - 02 62 00 10 3A 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 00 10 3A 18 D3 21 27 03 FE  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:19:43.384 [TX] - 02 62 00 20 66 0F 19 00
7/25/2012 10:19:43.413 [RX] - 02 62 00 20 66 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 00 20 66 18 D3 21 2B 02 00  INSTEON STD RX
02 50 00 20 66 02 30 C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 00 20 66 00 00 01 CB 11 00  INSTEON STD RX
02 50 00 20 66 18 D3 21 41 11 01  INSTEON STD RX
02 50 00 20 66 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

7/25/2012 10:20:06.740 [TX] - 02 62 00 20 66 0F 19 00
7/25/2012 10:20:06.750 [RX] - 02 62 00 20 66 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 00 20 66 18 D3 21 2B 03 FF  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 08:33:54.285 [TX] - 02 62 1F D5 33 0F 19 00
9/28/2012 08:33:54.303 [RX] - 02 62 1F D5 33 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 1F D5 33 18 D3 21 2B 02 00  INSTEON STD RX
02 50 1F D5 33 01 35 C3 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

```
02 50 1F D5 33 00 00 01 CB 11 00  INSTEON STD RX
02 50 1F D5 33 18 D3 21 41 11 01  INSTEON STD RX
02 50 1F D5 33 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

9/28/2012 08:36:25.541 [TX] - 02 62 1F D5 33 0F 19 00
9/28/2012 08:36:25.556 [RX] - 02 62 1F D5 33 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 1F D5 33 18 D3 21 2B 03 FE  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 11:49:39.673 [TX] - 02 62 1F D3 B3 0F 19 00
7/23/2012 11:49:39.687 [RX] - 02 62 1F D3 B3 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 1F D3 B3 18 D3 21 2B 02 00  INSTEON STD RX
02 50 1F D3 B3 02 2F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
02 50 1F D3 B3 00 00 01 CB 11 00  INSTEON STD RX
02 50 1F D3 B3 18 D3 21 41 11 01  INSTEON STD RX
02 50 1F D3 B3 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

7/23/2012 11:51:49.478 [TX] - 02 62 1F D3 B3 0F 19 00
7/23/2012 11:51:49.502 [RX] - 02 62 1F D3 B3 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 1F D3 B3 18 D3 21 2B 03 FF  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:17:02.328 [TX] - 02 62 11 CC F8 0F 19 00
7/26/2012 17:17:02.350 [RX] - 02 62 11 CC F8 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 11 CC F8 18 D3 21 2B 08 00  INSTEON STD RX
02 50 11 CC F8 00 00 01 CB 11 00  INSTEON STD RX
02 50 11 CC F8 18 D3 21 41 11 01  INSTEON STD RX
02 50 11 CC F8 11 03 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

7/26/2012 17:17:28.231 [TX] - 02 62 11 CC F8 0F 19 00
7/26/2012 17:17:28.247 [RX] - 02 62 11 CC F8 0F 19 00 06  INSTEON STD
TX
 Status Request
02 50 11 CC F8 18 D3 21 2B 09 FF  INSTEON STD RX
```

Success Report Broadcast
Description: Sent at the end of a group broadcast
Example (Hex): AA BB CC 11 03 01 CF 06 01 (where AA.BB.CC is the Device's ID, cleanup of cmd1 = 0x11, group = 0x01, 1 out of 3 devices failed to cleanup correctly)

SD Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Broadcast cleanup	From device	Device's ID	Hi byte = cmd1 being Cleaned up Med byte = Number of devices to be cleaned up Lo byte = Group Number	Group Broadcast	0x06	0x00 -> 0xFF (Number of Failed Cleanups)	

Plug-In Dimmer:

```
02 50 00 10 3A 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

02 50 00 10 3A 13 02 01 C7 06 01  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (One Error)
```

Plug-In Relay:

```
02 50 00 20 66 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

02 50 00 20 66 13 02 01 CB 06 01  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (One Error)
```

Micro Module Dimmer:

```
02 50 1F D5 33 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

02 50 1F D5 33 13 02 01 CB 06 01  INSTEON STD RX
 Broadcast Cleanup
```

```
 Broadcast Cleanup (One Error)
```

Micro Module Relay:

```
02 50 1F D3 B3 11 02 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

02 50 1F D3 B3 13 02 01 CB 06 01  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (One Error)
```

Din Rail Dimmer:

Din Rail Relay:

```
02 50 11 CC F8 13 03 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)

02 50 11 CC F8 13 03 01 CB 06 01  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (One Error)
```

Standard length Global Line INSTEON commands:

SD Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Light ON (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x11	0x00 -> 0xFF (on level)	Go to On-Level
	Response	Device's ID	Sender's ID	Ack	0x11	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:02:37.633 [TX] - 02 62 00 10 3A 0F 11 FF
7/25/2012 11:02:37.654 [RX] - 02 62 00 10 3A 0F 11 FF 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)

7/25/2012 11:02:45.072 [TX] - 02 62 00 10 3A 0F 11 7F
7/25/2012 11:02:45.090 [RX] - 02 62 00 10 3A 0F 11 7F 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 27 11 7F  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: 50% On)
```

Micro Module Dimmer:

```
9/28/2012 08:39:20.216 [TX] - 02 62 1F D5 33 0F 11 FF
9/28/2012 08:39:20.236 [RX] - 02 62 1F D5 33 0F 11 FF 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)

9/28/2012 08:39:25.098 [TX] - 02 62 1F D5 33 0F 11 7F
9/28/2012 08:39:25.121 [RX] - 02 62 1F D5 33 0F 11 7F 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 11 7F  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: 50% On)
```

Din Rail Dimmer:

Light ON (Relay only)	To device	Sender's ID	Device's ID	Direct	0x11	0x00 = off 0x01 -> 0xFF = on	Go to On-Level
	Response	Device's ID	Sender's ID	Ack	0x11	Same as sent	

Plug-In Relay:

```
7/25/2012 10:24:14.903 [TX] - 02 62 00 20 66 0F 11 FF
```

```
7/25/2012 10:24:14.933 [RX] - 02 62 00 20 66 0F 11 FF 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)

7/25/2012 10:24:20.733 [TX] - 02 62 00 20 66 0F 11 7F
7/25/2012 10:24:20.754 [RX] - 02 62 00 20 66 0F 11 7F 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 11 7F  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: 50% On)
```

Micro Module Relay:

```
7/23/2012 11:53:26.632 [TX] - 02 62 1F D3 B3 0F 11 FF
7/23/2012 11:53:26.654 [RX] - 02 62 1F D3 B3 0F 11 FF 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)

7/23/2012 11:53:48.711 [TX] - 02 62 1F D3 B3 0F 11 7F
7/23/2012 11:53:48.729 [RX] - 02 62 1F D3 B3 0F 11 7F 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 11 7F  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: 50% On)
```

Din Rail Relay:

```
7/26/2012 17:28:05.243 [TX] - 02 62 11 CC F8 0F 11 FF
7/26/2012 17:28:05.261 [RX] - 02 62 11 CC F8 0F 11 FF 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)

7/26/2012 17:28:12.691 [TX] - 02 62 11 CC F8 0F 11 7F
7/26/2012 17:28:12.715 [RX] - 02 62 11 CC F8 0F 11 7F 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 11 7F  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: 50% On)
```

Light ON Fast	To device	Sender's ID	Device's ID	Direct	0x12	0x00 -> 0xFF (Don't Care Value)	Go on instantly
	Response	Device's ID	Sender's ID	Ack	0x12	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:03:40.194 [TX] - 02 62 00 10 3A 0F 12 FF
7/25/2012 11:03:40.217 [RX] - 02 62 00 10 3A 0F 12 FF 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 12 FF  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)

7/25/2012 11:03:46.706 [TX] - 02 62 00 10 3A 0F 12 7F
7/25/2012 11:03:46.728 [RX] - 02 62 00 10 3A 0F 12 7F 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 12 7F  INSTEON STD RX
```

```
 Light ON Fast (Relay: Full On, Dimmer: Full On)
```

Plug-In Relay:

```
7/25/2012 10:24:55.588 [TX] - 02 62 00 20 66 0F 12 FF
7/25/2012 10:24:55.608 [RX] - 02 62 00 20 66 0F 12 FF 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 12 FF  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)

7/25/2012 10:25:07.136 [TX] - 02 62 00 20 66 0F 12 7F
7/25/2012 10:25:07.157 [RX] - 02 62 00 20 66 0F 12 7F 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 12 7F  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)
```

Micro Module Dimmer:

```
9/28/2012 08:39:51.929 [TX] - 02 62 1F D5 33 0F 12 FF
9/28/2012 08:39:51.948 [RX] - 02 62 1F D5 33 0F 12 FF 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 12 FF  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)

9/28/2012 08:40:13.527 [TX] - 02 62 1F D5 33 0F 12 7F
9/28/2012 08:40:13.551 [RX] - 02 62 1F D5 33 0F 12 7F 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 12 7F  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)
```

Micro Module Relay:

```
7/23/2012 11:58:14.878 [TX] - 02 62 1F D3 B3 0F 12 FF
7/23/2012 11:58:14.897 [RX] - 02 62 1F D3 B3 0F 12 FF 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 12 FF  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)

7/23/2012 11:58:25.214 [TX] - 02 62 1F D3 B3 0F 12 7F
7/23/2012 11:58:25.237 [RX] - 02 62 1F D3 B3 0F 12 7F 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 12 7F  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:29:00.391 [TX] - 02 62 11 CC F8 0F 12 FF
7/26/2012 17:29:00.416 [RX] - 02 62 11 CC F8 0F 12 FF 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 12 FF  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)

7/26/2012 17:29:11.062 [TX] - 02 62 11 CC F8 0F 12 7F
7/26/2012 17:29:11.086 [RX] - 02 62 11 CC F8 0F 12 7F 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 12 7F  INSTEON STD RX
 Light ON Fast (Relay: Full On, Dimmer: Full On)
```

Light OFF	To device	Sender's ID	Device's ID	Direct	0x13	0x00 -> 0xFF (Don't Care Value)	Go to Off
	Response	Device's ID	Sender's ID	Ack	0x13	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:04:31.109 [TX] - 02 62 00 10 3A 0F 13 00
7/25/2012 11:04:31.124 [RX] - 02 62 00 10 3A 0F 13 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 27 13 00  INSTEON STD RX
 Light OFF

7/25/2012 11:04:47.891 [TX] - 02 62 00 10 3A 0F 13 FF
7/25/2012 11:04:47.917 [RX] - 02 62 00 10 3A 0F 13 FF 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 13 FF  INSTEON STD RX
 Light OFF
```

Plug-In Relay:

```
7/25/2012 10:26:05.191 [TX] - 02 62 00 20 66 0F 13 00
7/25/2012 10:26:05.218 [RX] - 02 62 00 20 66 0F 13 00 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 13 00  INSTEON STD RX
 Light OFF

7/25/2012 10:26:13.668 [TX] - 02 62 00 20 66 0F 13 FF
7/25/2012 10:26:13.696 [RX] - 02 62 00 20 66 0F 13 FF 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 13 FF  INSTEON STD RX
 Light OFF
```

Micro Module Dimmer:

```
9/28/2012 08:42:37.343 [TX] - 02 62 1F D5 33 0F 13 00
9/28/2012 08:42:37.357 [RX] - 02 62 1F D5 33 0F 13 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 13 00  INSTEON STD RX
 Light OFF

9/28/2012 08:42:49.790 [TX] - 02 62 1F D5 33 0F 13 FF
9/28/2012 08:42:49.809 [RX] - 02 62 1F D5 33 0F 13 FF 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 13 FF  INSTEON STD RX
 Light OFF
```

Micro Module Relay:

```
7/23/2012 11:59:06.216 [TX] - 02 62 1F D3 B3 0F 13 00
7/23/2012 11:59:06.231 [RX] - 02 62 1F D3 B3 0F 13 00 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 13 00  INSTEON STD RX
 Light OFF
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:29:06.678 [TX] - 02 62 11 CC F8 0F 13 00
7/26/2012 17:29:06.702 [RX] - 02 62 11 CC F8 0F 13 00 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 13 00  INSTEON STD RX
 Light OFF
```

Light OFF Fast	To device	Sender's ID	Device's ID	Direct	0x14	0x00 -> 0xFF (Don't Care Value)	Go to Off instantly
	Response	Device's ID	Sender's ID	Ack	0x14	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:05:19.790 [TX] - 02 62 00 10 3A 0F 14 00
7/25/2012 11:05:19.810 [RX] - 02 62 00 10 3A 0F 14 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 14 00  INSTEON STD RX
 Light OFF Fast
```

Plug-In Relay:

```
7/25/2012 10:25:12.551 [TX] - 02 62 00 20 66 0F 14 00
7/25/2012 10:25:12.579 [RX] - 02 62 00 20 66 0F 14 00 06  INSTEON STD
TX
02 50 00 20 66 18 D3 21 2B 14 00  INSTEON STD RX
 Light OFF Fast
```

Micro Module Dimmer:

```
9/28/2012 08:43:25.485 [TX] - 02 62 1F D5 33 0F 14 00
9/28/2012 08:43:25.506 [RX] - 02 62 1F D5 33 0F 14 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 14 00  INSTEON STD RX
 Light OFF Fast
```

Micro Module Relay:

```
7/23/2012 11:59:32.661 [TX] - 02 62 1F D3 B3 0F 14 00
7/23/2012 11:59:32.682 [RX] - 02 62 1F D3 B3 0F 14 00 06  INSTEON STD
TX
02 50 1F D3 B3 18 D3 21 2B 14 00  INSTEON STD RX
 Light OFF Fast
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:29:19.526 [TX] - 02 62 11 CC F8 0F 14 00
7/26/2012 17:29:19.547 [RX] - 02 62 11 CC F8 0F 14 00 06  INSTEON STD
TX
02 50 11 CC F8 18 D3 21 2B 14 00  INSTEON STD RX
 Light OFF Fast
02 50 11 CC F8 18 D3 21 23 14 00  INSTEON STD RX
 Light OFF Fast
```

Bright (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x15	0x00 -> 0xFF	Brighten one step. 32 steps total
	Response	Device's ID	Sender's ID	Ack	0x15	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:05:48.069 [TX] - 02 62 00 10 3A 0F 15 00
7/25/2012 11:05:48.090 [RX] - 02 62 00 10 3A 0F 15 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 15 00  INSTEON STD RX
 Bright (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 08:43:50.616 [TX] - 02 62 1F D5 33 0F 15 00
9/28/2012 08:43:50.636 [RX] - 02 62 1F D5 33 0F 15 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 15 00  INSTEON STD RX
 Bright (Dimmer Only)
```

Din Rail Dimmer:

Dim (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x16	0x00 -> 0xFF	Dim one step. 32 steps total
	Response	Device's ID	Sender's ID	Ack	0x16	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:05:55.846 [TX] - 02 62 00 10 3A 0F 16 00
7/25/2012 11:05:55.860 [RX] - 02 62 00 10 3A 0F 16 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 16 00  INSTEON STD RX
 Dim (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 08:43:59.099 [TX] - 02 62 1F D5 33 0F 16 00
9/28/2012 08:43:59.116 [RX] - 02 62 1F D5 33 0F 16 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 16 00  INSTEON STD RX
 Dim (Dimmer Only)
```

Din Rail Dimmer:

Start Manual Change (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x17	0x00 = Down 0x01 = Up	Start bright or dim
	Response	Device's ID	Sender's ID	Ack	0x17	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:42:24.112 [TX] - 02 62 00 10 3A 0F 17 01
7/25/2012 11:42:24.131 [RX] - 02 62 00 10 3A 0F 17 01 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 17 01  INSTEON STD RX
 Start Manual Change Up (Dimmer Only)

7/25/2012 11:42:41.563 [TX] - 02 62 00 10 3A 0F 17 00
7/25/2012 11:42:41.582 [RX] - 02 62 00 10 3A 0F 17 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 17 00  INSTEON STD RX
 Start Manual Change Down (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 08:44:50.424 [TX] - 02 62 1F D5 33 0F 17 01
9/28/2012 08:44:50.445 [RX] - 02 62 1F D5 33 0F 17 01 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 17 01  INSTEON STD RX
 Start Manual Change Up (Dimmer Only)

9/28/2012 08:45:02.231 [TX] - 02 62 1F D5 33 0F 17 00
9/28/2012 08:45:02.251 [RX] - 02 62 1F D5 33 0F 17 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 17 00  INSTEON STD RX
 Start Manual Change Down (Dimmer Only)
```

Din Rail Dimmer:

Stop Manual Change (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x18	0x00 -> 0xFF	
	Response	Device's ID	Sender's ID	Ack	0x18	Same as sent	

Plug-In Dimmer:

```
7/25/2012 11:42:26.936 [TX] - 02 62 00 10 3A 0F 18 00
7/25/2012 11:42:26.961 [RX] - 02 62 00 10 3A 0F 18 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 18 00  INSTEON STD RX
 Stop Manual Change (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 08:45:04.750 [TX] - 02 62 1F D5 33 0F 18 00
9/28/2012 08:45:04.767 [RX] - 02 62 1F D5 33 0F 18 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 18 00  INSTEON STD RX
 Stop Manual Change (Dimmer Only)
```

Din Rail Dimmer:

SD Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Read Operating Flags	To device	Sender's ID	Device's ID	Direct	0x1F	Operating Flags Command	See Read Operating Flags Table
	Response	Device's ID	Sender's ID	Ack	0x1F	Same as sent	

Read Operating Flags Table	
0	bit 0 = Plock bit 1 = LED on TX bit 2 = Resume Dim (Dimmers only) bit 3 = LoadSense (Dimmers only) bit 4 = LED OFF bit 5 = Key Beep bit 6 = RF Disable bit 7 = Insteon Disable

Plug-In Dimmer:

```
7/25/2012 11:43:46.845 [TX] - 02 62 00 10 3A 0F 1F 00
7/25/2012 11:43:46.868 [RX] - 02 62 00 10 3A 0F 1F 00 06  INSTEON STD
TX
 Read Operating Flags 1
02 50 00 10 3A 18 D3 21 2B 1F 00  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:27:01.626 [TX] - 02 62 00 20 66 0F 1F 00
7/25/2012 10:27:01.642 [RX] - 02 62 00 20 66 0F 1F 00 06  INSTEON STD
TX
 Read Operating Flags 1
02 50 00 20 66 18 D3 21 2B 1F 00  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 08:46:05.572 [TX] - 02 62 1F D5 33 0F 1F 00
9/28/2012 08:46:05.596 [RX] - 02 62 1F D5 33 0F 1F 00 06  INSTEON STD
TX
 Read Operating Flags 1
02 50 1F D5 33 18 D3 21 2B 1F 00  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 12:00:03.722 [TX] - 02 62 1F D3 B3 0F 1F 00
7/23/2012 12:00:03.745 [RX] - 02 62 1F D3 B3 0F 1F 00 06  INSTEON STD
TX
 Read Operating Flags 1
02 50 1F D3 B3 18 D3 21 2B 1F 00  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:30:33.969 [TX] - 02 62 11 CC F8 0F 1F 00
7/26/2012 17:30:33.996 [RX] - 02 62 11 CC F8 0F 1F 00 06  INSTEON STD
TX
 Read Operating Flags 1
02 50 11 CC F8 18 D3 21 2B 1F 00  INSTEON STD RX
```

1	Data Base Delta flag….gets incremented with any change in the Database

Plug-In Dimmer:

```
7/25/2012 12:00:28.384 [TX] - 02 62 00 10 3A 0F 1F 01
7/25/2012 12:00:28.408 [RX] - 02 62 00 10 3A 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 00 10 3A 18 D3 21 2B 1F 03  INSTEON STD RX

7/25/2012 12:00:47.677 [TX] - 02 62 00 10 3A 0F 1F 01
7/25/2012 12:00:47.701 [RX] - 02 62 00 10 3A 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 00 10 3A 18 D3 21 2B 1F 04  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:27:22.764 [TX] - 02 62 00 20 66 0F 1F 01
7/25/2012 10:27:22.780 [RX] - 02 62 00 20 66 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 00 20 66 18 D3 21 2B 1F 03  INSTEON STD RX

7/25/2012 10:27:51.976 [TX] - 02 62 00 20 66 0F 1F 01
7/25/2012 10:27:51.999 [RX] - 02 62 00 20 66 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 00 20 66 18 D3 21 2B 1F 04  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 08:46:30.754 [TX] - 02 62 1F D5 33 0F 1F 01
9/28/2012 08:46:30.777 [RX] - 02 62 1F D5 33 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 1F D5 33 18 D3 21 2B 1F 03  INSTEON STD RX

9/28/2012 08:46:55.153 [TX] - 02 62 1F D5 33 0F 1F 01
9/28/2012 08:46:55.168 [RX] - 02 62 1F D5 33 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 1F D5 33 18 D3 21 2B 1F 04  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 12:00:08.017 [TX] - 02 62 1F D3 B3 0F 1F 01
7/23/2012 12:00:08.035 [RX] - 02 62 1F D3 B3 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 1F D3 B3 18 D3 21 2B 1F 03  INSTEON STD RX

7/23/2012 12:00:44.828 [TX] - 02 62 1F D3 B3 0F 1F 01
7/23/2012 12:00:44.852 [RX] - 02 62 1F D3 B3 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 1F D3 B3 18 D3 21 2B 1F 04  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:30:56.032 [TX] - 02 62 11 CC F8 0F 1F 01
7/26/2012 17:30:56.053 [RX] - 02 62 11 CC F8 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 11 CC F8 18 D3 21 2B 1F 09  INSTEON STD RX

7/26/2012 17:31:14.239 [TX] - 02 62 11 CC F8 0F 1F 01
7/26/2012 17:31:14.256 [RX] - 02 62 11 CC F8 0F 1F 01 06  INSTEON STD
TX
 Read DataBase Delta Flag
02 50 11 CC F8 18 D3 21 2B 1F 0A  INSTEON STD RX
```

2	CRC Error Count…gets incremented with every CRC Error

Plug-In Dimmer:

```
7/25/2012 12:01:20.409 [TX] - 02 62 00 10 3A 0F 1F 02
7/25/2012 12:01:20.432 [RX] - 02 62 00 10 3A 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 00 10 3A 18 D3 21 2B 1F 8A  INSTEON STD RX

7/25/2012 12:01:37.497 [TX] - 02 62 00 10 3A 0F 1F 02
7/25/2012 12:01:37.521 [RX] - 02 62 00 10 3A 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 00 10 3A 18 D3 21 2B 1F 8C  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:28:26.948 [TX] - 02 62 00 20 66 0F 1F 02
7/25/2012 10:28:26.964 [RX] - 02 62 00 20 66 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 00 20 66 18 D3 21 2B 1F 74  INSTEON STD RX

7/25/2012 10:28:36.770 [TX] - 02 62 00 20 66 0F 1F 02
7/25/2012 10:28:36.785 [RX] - 02 62 00 20 66 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
```

```
02 50 00 20 66 18 D3 21 2B 1F 75  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 09:08:50.010 [TX] - 02 62 1F D5 33 0F 1F 02
9/28/2012 09:08:50.033 [RX] - 02 62 1F D5 33 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 1F D5 33 18 D3 21 2B 1F 01  INSTEON STD RX

9/28/2012 09:09:42.407 [TX] - 02 62 1F D5 33 0F 1F 02
9/28/2012 09:09:42.428 [RX] - 02 62 1F D5 33 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 1F D5 33 18 D3 21 2B 1F 04  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 12:01:06.025 [TX] - 02 62 1F D3 B3 0F 1F 02
7/23/2012 12:01:06.046 [RX] - 02 62 1F D3 B3 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 1F D3 B3 18 D3 21 2B 1F F9  INSTEON STD RX

7/23/2012 12:01:13.603 [TX] - 02 62 1F D3 B3 0F 1F 02
7/23/2012 12:01:13.603 [RX] - 02 62 1F D3 B3 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 1F D3 B3 18 D3 21 2B 1F FA  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:32:26.986 [TX] - 02 62 11 CC F8 0F 1F 02
7/26/2012 17:32:27.007 [RX] - 02 62 11 CC F8 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 11 CC F8 18 D3 21 2B 1F 39  INSTEON STD RX

7/26/2012 17:32:35.098 [TX] - 02 62 11 CC F8 0F 1F 02
7/26/2012 17:32:35.121 [RX] - 02 62 11 CC F8 0F 1F 02 06  INSTEON STD
TX
 Read CRC Error Count
02 50 11 CC F8 18 D3 21 2B 1F 3D  INSTEON STD RX
```

3	S/N Failure Count

Plug-In Dimmer:

```
7/25/2012 12:03:25.767 [TX] - 02 62 00 10 3A 0F 1F 03
7/25/2012 12:03:25.792 [RX] - 02 62 00 10 3A 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 00 10 3A 18 D3 21 2B 1F 30  INSTEON STD RX

7/25/2012 12:05:08.215 [TX] - 02 62 00 10 3A 0F 1F 03
7/25/2012 12:05:08.232 [RX] - 02 62 00 10 3A 0F 1F 03 06  INSTEON STD
TX
```

```
 Read S/N Failure Count
02 50 00 10 3A 18 D3 21 27 1F 34  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:29:01.839 [TX] - 02 62 00 20 66 0F 1F 03
7/25/2012 10:29:01.849 [RX] - 02 62 00 20 66 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 00 20 66 18 D3 21 2B 1F C2  INSTEON STD RX

7/25/2012 10:29:10.501 [TX] - 02 62 00 20 66 0F 1F 03
7/25/2012 10:29:10.526 [RX] - 02 62 00 20 66 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 00 20 66 18 D3 21 2B 1F C3  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 09:02:20.786 [TX] - 02 62 1F D5 33 0F 1F 03
9/28/2012 09:02:20.800 [RX] - 02 62 1F D5 33 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 1F D5 33 18 D3 21 2B 1F 84  INSTEON STD RX

9/28/2012 09:02:28.937 [TX] - 02 62 1F D5 33 0F 1F 03
9/28/2012 09:02:28.958 [RX] - 02 62 1F D5 33 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 1F D5 33 18 D3 21 2B 1F A4  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 12:01:25.569 [TX] - 02 62 1F D3 B3 0F 1F 03
7/23/2012 12:01:25.586 [RX] - 02 62 1F D3 B3 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 1F D3 B3 18 D3 21 2B 1F F9  INSTEON STD RX

7/23/2012 12:01:33.762 [TX] - 02 62 1F D3 B3 0F 1F 03
7/23/2012 12:01:33.784 [RX] - 02 62 1F D3 B3 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 1F D3 B3 18 D3 21 2B 1F FA  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:36:06.270 [TX] - 02 62 11 CC F8 0F 1F 03
7/26/2012 17:36:06.285 [RX] - 02 62 11 CC F8 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 11 CC F8 18 D3 21 2B 1F 4D  INSTEON STD RX

7/26/2012 17:36:13.342 [TX] - 02 62 11 CC F8 0F 1F 03
7/26/2012 17:36:13.358 [RX] - 02 62 11 CC F8 0F 1F 03 06  INSTEON STD
TX
 Read S/N Failure Count
02 50 11 CC F8 18 D3 21 2B 1F 4E  INSTEON STD RX
02 50 11 CC F8 18 D3 21 23 1F 4E  INSTEON STD RX
```

5	bit 0 = TenD bit 1 = No X10 bit 2 = Blink on Error bit 3 = Cleanup Report (0 = Off, 1 = On) bit 4 = CheckSum on Database/Property writes bit 5 = Big Hold Off bit 6 = IA start hops

Plug-In Dimmer:

```
7/25/2012 12:05:41.150 [TX] - 02 62 00 10 3A 0F 1F 05
7/25/2012 12:05:41.178 [RX] - 02 62 00 10 3A 0F 1F 05 06  INSTEON STD
TX
 Read Operating Flags 2
02 50 00 10 3A 18 D3 21 2B 1F 09  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:29:29.511 [TX] - 02 62 00 20 66 0F 1F 05
7/25/2012 10:29:29.532 [RX] - 02 62 00 20 66 0F 1F 05 06  INSTEON STD
TX
 Read Operating Flags 2
02 50 00 20 66 18 D3 21 2B 1F 09  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 09:14:10.321 [TX] - 02 62 1F D5 33 0F 1F 05
9/28/2012 09:14:10.349 [RX] - 02 62 1F D5 33 0F 1F 05 06  INSTEON STD
TX
 Read Operating Flags 2
02 50 1F D5 33 18 D3 21 2B 1F 0D  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 12:01:38.483 [TX] - 02 62 1F D3 B3 0F 1F 05
7/23/2012 12:01:38.504 [RX] - 02 62 1F D3 B3 0F 1F 05 06  INSTEON STD
TX
 Read Operating Flags 2
02 50 1F D3 B3 18 D3 21 2B 1F 09  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:36:40.529 [TX] - 02 62 11 CC F8 0F 1F 05
7/26/2012 17:36:40.555 [RX] - 02 62 11 CC F8 0F 1F 05 06  INSTEON STD
TX
 Read Operating Flags 2
02 50 11 CC F8 18 D3 21 2B 1F 09  INSTEON STD RX
```

6	bit 0 = Dual Line bit 1 = Momentary Line

	bit 2 = Not 3 way

Plug-In Dimmer:

```
7/25/2012 12:05:44.598 [TX] - 02 62 00 10 3A 0F 1F 06
7/25/2012 12:05:44.625 [RX] - 02 62 00 10 3A 0F 1F 06 06  INSTEON STD
TX
 Read Operating Flags 3
02 50 00 10 3A 18 D3 21 2B 1F 00  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:29:51.670 [TX] - 02 62 00 20 66 0F 1F 06
7/25/2012 10:29:51.693 [RX] - 02 62 00 20 66 0F 1F 06 06  INSTEON STD
TX
 Read Operating Flags 3
02 50 00 20 66 18 D3 21 2B 1F 00  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 09:14:14.856 [TX] - 02 62 1F D5 33 0F 1F 06
9/28/2012 09:14:14.876 [RX] - 02 62 1F D5 33 0F 1F 06 06  INSTEON STD
TX
 Read Operating Flags 3
02 50 1F D5 33 18 D3 21 2B 1F 00  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 12:01:42.195 [TX] - 02 62 1F D3 B3 0F 1F 06
7/23/2012 12:01:42.209 [RX] - 02 62 1F D3 B3 0F 1F 06 06  INSTEON STD
TX
 Read Operating Flags 3
02 50 1F D3 B3 18 D3 21 2B 1F 00  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:36:44.985 [TX] - 02 62 11 CC F8 0F 1F 06
7/26/2012 17:36:45.002 [RX] - 02 62 11 CC F8 0F 1F 06 06  INSTEON STD
TX
 Read Operating Flags 3
02 50 11 CC F8 18 D3 21 2B 1F 00  INSTEON STD RX
```

SD Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Instant On/Off (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x21	0x00 -> 0xFF (on level)	Uses instant Ramp Rate
	Response	Device's ID	Sender's ID	Ack	0x21	Same as sent	

Plug-In Dimmer:

```
7/25/2012 12:11:16.845 [TX] - 02 62 00 10 3A 0F 21 FF
7/25/2012 12:11:16.871 [RX] - 02 62 00 10 3A 0F 21 FF 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 21 FF  INSTEON STD RX
 Instant On - Full On (Dimmer Only)

7/25/2012 12:11:21.161 [TX] - 02 62 00 10 3A 0F 21 7F
7/25/2012 12:11:21.174 [RX] - 02 62 00 10 3A 0F 21 7F 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 21 7F  INSTEON STD RX
 Instant On - 50% On (Dimmer Only)

7/25/2012 12:11:34.344 [TX] - 02 62 00 10 3A 0F 21 00
7/25/2012 12:11:34.355 [RX] - 02 62 00 10 3A 0F 21 00 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 21 00  INSTEON STD RX
 Instant Off (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 09:17:51.405 [TX] - 02 62 1F D5 33 0F 21 FF
9/28/2012 09:17:51.416 [RX] - 02 62 1F D5 33 0F 21 FF 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 21 FF  INSTEON STD RX
 Instant On - Full On (Dimmer Only)

9/28/2012 09:17:54.795 [TX] - 02 62 1F D5 33 0F 21 7F
9/28/2012 09:17:54.819 [RX] - 02 62 1F D5 33 0F 21 7F 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 21 7F  INSTEON STD RX
 Instant On - 50% On (Dimmer Only)

9/28/2012 09:17:58.522 [TX] - 02 62 1F D5 33 0F 21 00
9/28/2012 09:17:58.550 [RX] - 02 62 1F D5 33 0F 21 00 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 21 00  INSTEON STD RX
 Instant Off (Dimmer Only)
```

Din Rail Dimmer:

RR On (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x2E	On level = 16*On + 0F RR = 2*RR+1	
	Response	Device's ID	Sender's ID	Ack	0x2E	Same as sent	

Plug-In Dimmer:

```
7/25/2012 12:12:11.820 [TX] - 02 62 00 10 3A 0F 2E FF
7/25/2012 12:12:11.839 [RX] - 02 62 00 10 3A 0F 2E FF 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 2E FF  INSTEON STD RX
 Ramp Rate On - Full On Fast (Dimmer Only)

7/25/2012 12:12:17.372 [TX] - 02 62 00 10 3A 0F 2E 0F
7/25/2012 12:12:17.390 [RX] - 02 62 00 10 3A 0F 2E 0F 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 2E 0F  INSTEON STD RX
 Ramp Rate On - Very Dim Fast (Dimmer Only)

7/25/2012 12:12:23.307 [TX] - 02 62 00 10 3A 0F 2E F7
7/25/2012 12:12:23.325 [RX] - 02 62 00 10 3A 0F 2E F7 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 2E F7  INSTEON STD RX
 Ramp Rate On - Full On 30 Seconds (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 09:19:21.846 [TX] - 02 62 1F D5 33 0F 2E FF
9/28/2012 09:19:21.859 [RX] - 02 62 1F D5 33 0F 2E FF 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 2E FF  INSTEON STD RX
 Ramp Rate On - Full On Fast (Dimmer Only)

9/28/2012 09:19:27.717 [TX] - 02 62 1F D5 33 0F 2E 0F
9/28/2012 09:19:27.745 [RX] - 02 62 1F D5 33 0F 2E 0F 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 2E 0F  INSTEON STD RX
 Ramp Rate On - Very Dim Fast (Dimmer Only)

9/28/2012 09:19:32.837 [TX] - 02 62 1F D5 33 0F 2E F7
9/28/2012 09:19:32.858 [RX] - 02 62 1F D5 33 0F 2E F7 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 2E F7  INSTEON STD RX
 Ramp Rate On - Full On 30 Seconds (Dimmer Only)
```

Din Rail Dimmer:

RR Off (Dimmer only)	To device	Sender's ID	Device's ID	Direct	0x2F	On level = 00 RR = 2*RR+1	
	Response	Device's ID	Sender's ID	Ack	0x2F	Same as sent	

Plug-In Dimmer:

```
7/25/2012 12:12:58.280 [TX] - 02 62 00 10 3A 0F 2F 0F
7/25/2012 12:12:58.291 [RX] - 02 62 00 10 3A 0F 2F 0F 06  INSTEON STD
TX
02 50 00 10 3A 18 D3 21 2B 2F 0F  INSTEON STD RX
 Ramp Rate Off - Fast (Dimmer Only)
```

Micro Module Dimmer:

```
9/28/2012 09:20:08.051 [TX] - 02 62 1F D5 33 0F 2F 0F
9/28/2012 09:20:08.074 [RX] - 02 62 1F D5 33 0F 2F 0F 06  INSTEON STD
TX
02 50 1F D5 33 18 D3 21 2B 2F 0F  INSTEON STD RX
 Ramp Rate Off - Fast (Dimmer Only)
```

Din Rail Dimmer:

Beep	To device	Sender's ID	Device's ID	Direct	0x30	0x00 -> 0xFF (Don't care value)	Beeps for standard duration (same as Set Button Pressed)
	Response	Device's ID	Sender's ID	Ack	0x30	Same as sent	

Plug-In Dimmer:

```
7/25/2012 12:13:19.489 [TX] - 02 62 00 10 3A 0F 30 00
7/25/2012 12:13:19.510 [RX] - 02 62 00 10 3A 0F 30 00 06  INSTEON STD
TX
 Beep
02 50 00 10 3A 18 D3 21 2B 30 00  INSTEON STD RX
```

Plug-In Relay:

```
7/25/2012 10:30:19.539 [TX] - 02 62 00 20 66 0F 30 00
7/25/2012 10:30:19.552 [RX] - 02 62 00 20 66 0F 30 00 06  INSTEON STD
TX
 Beep
02 50 00 20 66 18 D3 21 2B 30 00  INSTEON STD RX
```

Micro Module Dimmer:

```
9/28/2012 09:20:54.289 [TX] - 02 62 1F D5 33 0F 30 00
9/28/2012 09:20:54.317 [RX] - 02 62 1F D5 33 0F 30 00 06  INSTEON STD
TX
 Beep
02 50 1F D5 33 18 D3 21 2B 30 00  INSTEON STD RX
```

Micro Module Relay:

```
7/23/2012 13:43:59.988 [TX] - 02 62 1F D3 B3 0F 30 00
```

```
7/23/2012 13:44:00.006 [RX] - 02 62 1F D3 B3 0F 30 00 06  INSTEON STD
TX
 Beep
02 50 1F D3 B3 18 D3 21 2B 30 00  INSTEON STD RX
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:37:29.140 [TX] - 02 62 11 CC F8 0F 30 00
7/26/2012 17:37:29.158 [RX] - 02 62 11 CC F8 0F 30 00 06  INSTEON STD
TX
 Beep
02 50 11 CC F8 18 D3 21 2B 30 00  INSTEON STD RX
```

Extended length Global Line INSTEON commands:

Remote Enter Linking Mode Command
Description: Same as holding down the SET Button for 3 seconds on the device. Blinks the LED red for 4 minutes or until unlinked from another device.

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Enter Linking Mode	To device	Sender's ID	Device's ID	Extended Direct	0x09	0x00 -> 0xFF (Don't Care Value; Always enter group 0x01 linking)	0x00	See Extended Enter Linking mode Info
	Response	Device's ID	Sender's ID	Ack	0x09	Same as sent		
	Sent from Device	Device's ID	0x01 0xXX 0xXX (firmware revision)	Broadcast	0x01	0x00	Same as holding down SET Button for 3 seconds	Same as holding down SET Button for 3 seconds

Extended Enter Linking mode Info									
Data 2 (1 byte)	**Data 3**	**Data 4 (1 byte)**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**…**	**Data 14**
0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00		Checksum (0xF6, for group 1 in cmd2)

Plug-In Dimmer:

```
7/25/2012 12:13:56.828 [TX] - 02 62 00 10 3A 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6
7/25/2012 12:13:56.843 [RX] - 02 62 00 10 3A 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 09 01  INSTEON STD RX
 Remote Enter Linking Mode
02 50 00 10 3A 01 0F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Plug-In Relay:

```
7/25/2012 10:30:48.223 [TX] - 02 62 00 20 66 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6
7/25/2012 10:30:48.246 [RX] - 02 62 00 20 66 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 09 01  INSTEON STD RX
 Remote Enter Linking Mode
02 50 00 20 66 02 30 C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Micro Module Dimmer:

```
9/28/2012 09:23:09.060 [TX] - 02 62 1F D5 33 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6
9/28/2012 09:23:09.085 [RX] - 02 62 1F D5 33 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6 06
02 50 1F D5 33 18 D3 21 2B 09 01  INSTEON STD RX
 Remote Enter Linking Mode
02 50 1F D5 33 01 35 C3 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Micro Module Relay:

```
7/23/2012 13:49:50.006 [TX] - 02 62 1F D3 B3 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6
7/23/2012 13:49:50.026 [RX] - 02 62 1F D3 B3 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 09 01  INSTEON STD RX
 Remote Enter Linking Mode
02 50 1F D3 B3 02 2F C1 8B 01 00  INSTEON STD RX
 Assign to ALL-Link Group/ID Request
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:38:11.058 [TX] - 02 62 11 CC F8 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6
7/26/2012 17:38:11.084 [RX] - 02 62 11 CC F8 1F 09 01 00 00 00 00 00 00
00 00 00 00 00 00 00 F6 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 09 01  INSTEON STD RX
 Remote Enter Linking Mode
```

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Notes
Set Operating Flags	To device	Sender's ID	Device's ID	Extended Direct	0x20	Operating Flags Command	See Set Operating Flags Table below Data 14 to contain Checksum
	Response	Device's ID	Sender's ID	Ack	0x20	Same as sent	

Set Operating Flags Table	
00	Programming lock On
01	**Programming lock off**
02	LED on with Insteon TX
03	**LED off with Insteon TX**
04	Resume Dim On (Dimmers only)
05	**Resume Dim Off** (Dimmers only)
…	
08	Led Off
09	**Led On**
0A	KeyBeep On

0B	**KeyBeep Off**
0C	RF Off (As an originator, will still hop messages)
0D	**RF On**
0E	Insteon Off
0F	**Insteon On (Will go back to on every power cycle**
10	TenD flag On (Turns on App retries read out of database and cu error report)
11	**TenDflag Off**
12	X10Offflag On (Disables all X10 rx and tx)
13	**X10Offflag Off**
14	**Error Blink Off**
15	Error Blink On
16	**Cleanup Report Off**
17	Cleanup Report On
18	**Checksum Off for Database/Properties write**
19	Checksum On for Database/Properties write
1A	**Standard Holdoff (2-9**

1A	**Standard Holdoff (2-9 zero-crossings)**
1B	Standard Holdoff *8 (16-72 zero-crossings)
1C	**Start Hops of last Rx ACK (SmartHops)**
1D	Start Hops of 1
1E	**Single Line**
1F	Dual Line
20	**Latching Line**
21	Momentary Line
22	**Acts like a three way (Every Line activation changes load state)**
	Not a 3 way (Line high always On, Line low

Plug-In Dimmer:

```
7/25/2012 12:15:22.027 [TX] - 02 62 00 10 3A 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0
7/25/2012 12:15:22.046 [RX] - 02 62 00 10 3A 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 00  INSTEON STD RX
 Programming Lock On

7/25/2012 12:15:26.251 [TX] - 02 62 00 10 3A 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF
7/25/2012 12:15:26.268 [RX] - 02 62 00 10 3A 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 27 20 01  INSTEON STD RX
 Programming Lock Off

7/25/2012 14:12:54.670 [TX] - 02 62 00 10 3A 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE
7/25/2012 14:12:54.691 [RX] - 02 62 00 10 3A 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 02  INSTEON STD RX
 LED On with Insteon TX
```

```
7/25/2012 14:13:03.213 [TX] - 02 62 00 10 3A 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD
7/25/2012 14:13:03.233 [RX] - 02 62 00 10 3A 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 03  INSTEON STD RX
 LED Off with Insteon TX

7/25/2012 14:16:32.008 [TX] - 02 62 00 10 3A 1F 20 04 00 00 00 00 00 00
00 00 00 00 00 00 00 DC
7/25/2012 14:16:32.042 [RX] - 02 62 00 10 3A 1F 20 04 00 00 00 00 00 00
00 00 00 00 00 00 00 DC 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 04  INSTEON STD RX
 Resume Dim On (Dimmer Only)

7/25/2012 14:16:35.673 [TX] - 02 62 00 10 3A 1F 20 05 00 00 00 00 00 00
00 00 00 00 00 00 00 DB
7/25/2012 14:16:35.701 [RX] - 02 62 00 10 3A 1F 20 05 00 00 00 00 00 00
00 00 00 00 00 00 00 DB 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 05  INSTEON STD RX
 Resume Dim Off (Dimmer Only)

7/25/2012 14:17:32.335 [TX] - 02 62 00 10 3A 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8
7/25/2012 14:17:32.354 [RX] - 02 62 00 10 3A 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 08  INSTEON STD RX
 LED Off

7/25/2012 14:17:36.671 [TX] - 02 62 00 10 3A 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7
7/25/2012 14:17:36.695 [RX] - 02 62 00 10 3A 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 09  INSTEON STD RX
 LED On

7/25/2012 14:18:20.405 [TX] - 02 62 00 10 3A 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6
7/25/2012 14:18:20.430 [RX] - 02 62 00 10 3A 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 0A  INSTEON STD RX
 KeyBeep On

7/25/2012 14:18:24.357 [TX] - 02 62 00 10 3A 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5
7/25/2012 14:18:24.382 [RX] - 02 62 00 10 3A 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 0B  INSTEON STD RX
 KeyBeep Off

7/25/2012 15:11:39.378 [TX] - 02 62 00 10 3A 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4
7/25/2012 15:11:39.401 [RX] - 02 62 00 10 3A 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 0C  INSTEON STD RX
 RF Off
```

```
7/25/2012 15:11:42.994 [TX] - 02 62 00 10 3A 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3
7/25/2012 15:11:43.016 [RX] - 02 62 00 10 3A 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 0D  INSTEON STD RX
 RF On

7/25/2012 16:01:00.982 [TX] - 02 62 00 10 3A 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2
7/25/2012 16:01:01.006 [RX] - 02 62 00 10 3A 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 0E  INSTEON STD RX
 Insteon Off

7/25/2012 16:01:16.276 [TX] - 02 62 00 10 3A 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1
7/25/2012 16:01:16.297 [RX] - 02 62 00 10 3A 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 0F  INSTEON STD RX
 Insteon On

7/25/2012 16:03:17.772 [TX] - 02 62 00 10 3A 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0
7/25/2012 16:03:17.795 [RX] - 02 62 00 10 3A 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 10  INSTEON STD RX
 TenD flag On

7/25/2012 16:03:22.035 [TX] - 02 62 00 10 3A 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF
7/25/2012 16:03:22.053 [RX] - 02 62 00 10 3A 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 11  INSTEON STD RX
 TenD flag Off

7/25/2012 16:05:13.652 [TX] - 02 62 00 10 3A 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE
7/25/2012 16:05:13.679 [RX] - 02 62 00 10 3A 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 12  INSTEON STD RX
 X10 Off flag On

7/25/2012 16:05:18.195 [TX] - 02 62 00 10 3A 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD
7/25/2012 16:05:18.206 [RX] - 02 62 00 10 3A 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 13  INSTEON STD RX
 X10 Off flag Off

7/25/2012 16:20:57.402 [TX] - 02 62 00 10 3A 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC
7/25/2012 16:20:57.425 [RX] - 02 62 00 10 3A 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 14  INSTEON STD RX
 Error Blink Off

7/25/2012 16:21:01.769 [TX] - 02 62 00 10 3A 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB
```

```
7/25/2012 16:21:01.783 [RX] - 02 62 00 10 3A 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 15  INSTEON STD RX
 Error Blink On

7/25/2012 16:31:37.706 [TX] - 02 62 00 10 3A 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA
7/25/2012 16:31:37.709 [RX] - 02 62 00 10 3A 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 16  INSTEON STD RX
 Cleanup Report Off
02 50 00 10 3A 00 00 01 CB 11 00  INSTEON STD RX
02 50 00 10 3A 18 D3 21 41 11 01  INSTEON STD RX

7/25/2012 16:31:50.529 [TX] - 02 62 00 10 3A 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9
7/25/2012 16:31:50.557 [RX] - 02 62 00 10 3A 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 17  INSTEON STD RX
 Cleanup Report On

7/25/2012 17:48:35.162 [TX] - 02 62 00 10 3A 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8
7/25/2012 17:48:35.182 [RX] - 02 62 00 10 3A 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 18  INSTEON STD RX
 Checksum Off for Database/Properties Write

7/25/2012 17:48:39.352 [TX] - 02 62 00 10 3A 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7
7/25/2012 17:48:39.375 [RX] - 02 62 00 10 3A 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 19  INSTEON STD RX
 Checksum On for Database/Properties Write

7/25/2012 17:48:44.373 [TX] - 02 62 00 10 3A 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6
7/25/2012 17:48:44.449 [RX] - 02 62 00 10 3A 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 1A  INSTEON STD RX
 Standard Holdoff

7/25/2012 17:48:48.913 [TX] - 02 62 00 10 3A 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5
7/25/2012 17:48:48.974 [RX] - 02 62 00 10 3A 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 1B  INSTEON STD RX
 Standard Holdoff *8

7/25/2012 17:48:53.095 [TX] - 02 62 00 10 3A 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4
7/25/2012 17:48:53.112 [RX] - 02 62 00 10 3A 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 1C  INSTEON STD RX
 Start Hops of last RX ACK (SmartHops)

7/25/2012 17:48:57.287 [TX] - 02 62 00 10 3A 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3
```

```
7/25/2012 17:48:57.312 [RX] - 02 62 00 10 3A 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 20 1D  INSTEON STD RX
 Start Hops of 1
```

Plug-In Relay:

```
7/25/2012 10:33:46.927 [TX] - 02 62 00 20 66 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0
7/25/2012 10:33:46.950 [RX] - 02 62 00 20 66 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 00  INSTEON STD RX
 Programming Lock On

7/25/2012 10:33:51.150 [TX] - 02 62 00 20 66 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF
7/25/2012 10:33:51.173 [RX] - 02 62 00 20 66 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 01  INSTEON STD RX
 Programming Lock Off

7/25/2012 10:33:55.470 [TX] - 02 62 00 20 66 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE
7/25/2012 10:33:55.492 [RX] - 02 62 00 20 66 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 02  INSTEON STD RX
 LED On with Insteon TX

7/25/2012 10:33:59.069 [TX] - 02 62 00 20 66 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD
7/25/2012 10:33:59.090 [RX] - 02 62 00 20 66 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 03  INSTEON STD RX
 LED Off with Insteon TX

7/25/2012 10:34:03.533 [TX] - 02 62 00 20 66 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8
7/25/2012 10:34:03.553 [RX] - 02 62 00 20 66 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 08  INSTEON STD RX
 LED Off

7/25/2012 10:34:07.900 [TX] - 02 62 00 20 66 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7
7/25/2012 10:34:07.920 [RX] - 02 62 00 20 66 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 09  INSTEON STD RX
 LED On

7/25/2012 10:34:14.155 [TX] - 02 62 00 20 66 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6
7/25/2012 10:34:14.177 [RX] - 02 62 00 20 66 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 0A  INSTEON STD RX
 KeyBeep On

7/25/2012 10:34:17.371 [TX] - 02 62 00 20 66 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5
```

```
7/25/2012 10:34:17.395 [RX] - 02 62 00 20 66 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 0B  INSTEON STD RX
 KeyBeep Off

7/25/2012 10:34:21.210 [TX] - 02 62 00 20 66 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4
7/25/2012 10:34:21.227 [RX] - 02 62 00 20 66 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 0C  INSTEON STD RX
 RF Off

7/25/2012 10:34:24.969 [TX] - 02 62 00 20 66 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3
7/25/2012 10:34:24.987 [RX] - 02 62 00 20 66 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 0D  INSTEON STD RX
 RF On

7/25/2012 10:34:32.617 [TX] - 02 62 00 20 66 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2
7/25/2012 10:34:32.632 [RX] - 02 62 00 20 66 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 0E  INSTEON STD RX
 Insteon Off

7/25/2012 10:34:36.424 [TX] - 02 62 00 20 66 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1
7/25/2012 10:34:36.438 [RX] - 02 62 00 20 66 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 0F  INSTEON STD RX
 Insteon On

7/25/2012 10:34:42.487 [TX] - 02 62 00 20 66 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0
7/25/2012 10:34:42.516 [RX] - 02 62 00 20 66 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 10  INSTEON STD RX
 TenD flag On

7/25/2012 10:34:45.911 [TX] - 02 62 00 20 66 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF
7/25/2012 10:34:45.924 [RX] - 02 62 00 20 66 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 11  INSTEON STD RX
 TenD flag Off

7/25/2012 10:34:49.751 [TX] - 02 62 00 20 66 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE
7/25/2012 10:34:49.778 [RX] - 02 62 00 20 66 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 12  INSTEON STD RX
 X10 Off flag On

7/25/2012 10:34:53.334 [TX] - 02 62 00 20 66 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD
7/25/2012 10:34:53.361 [RX] - 02 62 00 20 66 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
```

```
02 50 00 20 66 18 D3 21 2B 20 13  INSTEON STD RX
 X10 Off flag Off

7/25/2012 10:34:57.125 [TX] - 02 62 00 20 66 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC
7/25/2012 10:34:57.152 [RX] - 02 62 00 20 66 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 14  INSTEON STD RX
 Error Blink Off

7/25/2012 10:35:00.677 [TX] - 02 62 00 20 66 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB
7/25/2012 10:35:00.687 [RX] - 02 62 00 20 66 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 15  INSTEON STD RX
 Error Blink On

7/25/2012 10:35:04.596 [TX] - 02 62 00 20 66 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA
7/25/2012 10:35:04.621 [RX] - 02 62 00 20 66 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 16  INSTEON STD RX
 Cleanup Report Off

7/25/2012 10:35:10.596 [TX] - 02 62 00 20 66 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9
7/25/2012 10:35:10.620 [RX] - 02 62 00 20 66 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 17  INSTEON STD RX
 Cleanup Report On

7/25/2012 10:35:16.147 [TX] - 02 62 00 20 66 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8
7/25/2012 10:35:16.170 [RX] - 02 62 00 20 66 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 18  INSTEON STD RX
 Checksum Off for Database/Properties Write

7/25/2012 10:35:21.140 [TX] - 02 62 00 20 66 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7
7/25/2012 10:35:21.160 [RX] - 02 62 00 20 66 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 19  INSTEON STD RX
 Checksum On for Database/Properties Write

7/25/2012 10:35:24.898 [TX] - 02 62 00 20 66 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6
7/25/2012 10:35:24.920 [RX] - 02 62 00 20 66 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 1A  INSTEON STD RX
 Standard Holdoff

7/25/2012 10:35:28.562 [TX] - 02 62 00 20 66 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5
7/25/2012 10:35:28.582 [RX] - 02 62 00 20 66 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 1B  INSTEON STD RX
 Standard Holdoff *8
```

```
7/25/2012 10:35:34.112 [TX] - 02 62 00 20 66 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4
7/25/2012 10:35:34.132 [RX] - 02 62 00 20 66 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 1C  INSTEON STD RX
 Start Hops of last RX ACK (SmartHops)

7/25/2012 10:35:37.856 [TX] - 02 62 00 20 66 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3
7/25/2012 10:35:37.875 [RX] - 02 62 00 20 66 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 20 1D  INSTEON STD RX
 Start Hops of 1
```

Micro Module Dimmer:

```
9/28/2012 09:28:54.022 [TX] - 02 62 1F D5 33 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0
9/28/2012 09:28:54.043 [RX] - 02 62 1F D5 33 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 00  INSTEON STD RX
 Programming Lock On

9/28/2012 09:28:59.669 [TX] - 02 62 1F D5 33 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF
9/28/2012 09:28:59.689 [RX] - 02 62 1F D5 33 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 01  INSTEON STD RX
 Programming Lock Off

9/28/2012 09:29:31.578 [TX] - 02 62 1F D5 33 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE
9/28/2012 09:29:31.594 [RX] - 02 62 1F D5 33 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 02  INSTEON STD RX
 LED On with Insteon TX

9/28/2012 09:37:52.710 [TX] - 02 62 1F D5 33 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD
9/28/2012 09:37:52.730 [RX] - 02 62 1F D5 33 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 03  INSTEON STD RX
 LED Off with Insteon TX

9/28/2012 09:37:56.933 [TX] - 02 62 1F D5 33 1F 20 04 00 00 00 00 00 00
00 00 00 00 00 00 00 DC
9/28/2012 09:37:56.952 [RX] - 02 62 1F D5 33 1F 20 04 00 00 00 00 00 00
00 00 00 00 00 00 00 DC 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 04  INSTEON STD RX
 Resume Dim On (Dimmer Only)

9/28/2012 09:38:00.597 [TX] - 02 62 1F D5 33 1F 20 05 00 00 00 00 00 00
00 00 00 00 00 00 00 DB
9/28/2012 09:38:00.616 [RX] - 02 62 1F D5 33 1F 20 05 00 00 00 00 00 00
00 00 00 00 00 00 00 DB 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 05  INSTEON STD RX
 Resume Dim Off (Dimmer Only)
```

```
9/28/2012 09:38:04.869 [TX] - 02 62 1F D5 33 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8
9/28/2012 09:38:04.887 [RX] - 02 62 1F D5 33 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 08  INSTEON STD RX
 LED Off

9/28/2012 09:38:08.756 [TX] - 02 62 1F D5 33 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7
9/28/2012 09:38:08.774 [RX] - 02 62 1F D5 33 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 09  INSTEON STD RX
 LED On

9/28/2012 09:38:17.556 [TX] - 02 62 1F D5 33 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6
9/28/2012 09:38:17.572 [RX] - 02 62 1F D5 33 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 0A  INSTEON STD RX
 KeyBeep On

9/28/2012 09:38:21.860 [TX] - 02 62 1F D5 33 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5
9/28/2012 09:38:21.881 [RX] - 02 62 1F D5 33 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 0B  INSTEON STD RX
 KeyBeep Off

9/28/2012 09:38:26.516 [TX] - 02 62 1F D5 33 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4
9/28/2012 09:38:26.537 [RX] - 02 62 1F D5 33 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 0C  INSTEON STD RX
 RF Off

9/28/2012 09:38:30.660 [TX] - 02 62 1F D5 33 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3
9/28/2012 09:38:30.677 [RX] - 02 62 1F D5 33 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 0D  INSTEON STD RX
 RF On

9/28/2012 09:38:34.451 [TX] - 02 62 1F D5 33 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2
9/28/2012 09:38:34.473 [RX] - 02 62 1F D5 33 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 0E  INSTEON STD RX
 Insteon Off

9/28/2012 09:38:38.020 [TX] - 02 62 1F D5 33 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1
9/28/2012 09:38:38.047 [RX] - 02 62 1F D5 33 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 0F  INSTEON STD RX
 Insteon On

9/28/2012 09:38:41.939 [TX] - 02 62 1F D5 33 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0
```

```
9/28/2012 09:38:41.966 [RX] - 02 62 1F D5 33 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 10  INSTEON STD RX
 TenD flag On

9/28/2012 09:38:45.587 [TX] - 02 62 1F D5 33 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF
9/28/2012 09:38:45.614 [RX] - 02 62 1F D5 33 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 11  INSTEON STD RX
 TenD flag Off

9/28/2012 09:38:54.322 [TX] - 02 62 1F D5 33 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE
9/28/2012 09:38:54.347 [RX] - 02 62 1F D5 33 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 12  INSTEON STD RX
 X10 Off flag On

9/28/2012 09:38:58.082 [TX] - 02 62 1F D5 33 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD
9/28/2012 09:38:58.106 [RX] - 02 62 1F D5 33 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 13  INSTEON STD RX
 X10 Off flag Off

9/28/2012 09:39:28.321 [TX] - 02 62 1F D5 33 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC
9/28/2012 09:39:28.344 [RX] - 02 62 1F D5 33 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 14  INSTEON STD RX
 Error Blink Off

9/28/2012 09:39:31.920 [TX] - 02 62 1F D5 33 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB
9/28/2012 09:39:31.938 [RX] - 02 62 1F D5 33 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 15  INSTEON STD RX
 Error Blink On

9/28/2012 09:39:44.671 [TX] - 02 62 1F D5 33 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA
9/28/2012 09:39:44.687 [RX] - 02 62 1F D5 33 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 16  INSTEON STD RX
 Cleanup Report Off

9/28/2012 09:39:55.919 [TX] - 02 62 1F D5 33 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9
9/28/2012 09:39:55.936 [RX] - 02 62 1F D5 33 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 17  INSTEON STD RX
 Cleanup Report On

9/28/2012 09:40:00.478 [TX] - 02 62 1F D5 33 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8
9/28/2012 09:40:00.498 [RX] - 02 62 1F D5 33 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8 06  INSTEON EXT TX
```

```
02 50 1F D5 33 18 D3 21 2B 20 18  INSTEON STD RX
 Checksum Off for Database/Properties Write

9/28/2012 09:40:04.110 [TX] - 02 62 1F D5 33 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7
9/28/2012 09:40:04.122 [RX] - 02 62 1F D5 33 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 19  INSTEON STD RX
 Checksum On for Database/Properties Write

9/28/2012 09:40:14.414 [TX] - 02 62 1F D5 33 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6
9/28/2012 09:40:14.435 [RX] - 02 62 1F D5 33 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 1A  INSTEON STD RX
 Standard Holdoff

9/28/2012 09:40:18.333 [TX] - 02 62 1F D5 33 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5
9/28/2012 09:40:18.359 [RX] - 02 62 1F D5 33 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 1B  INSTEON STD RX
 Standard Holdoff *8

9/28/2012 09:40:22.175 [TX] - 02 62 1F D5 33 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4
9/28/2012 09:40:22.206 [RX] - 02 62 1F D5 33 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 1C  INSTEON STD RX
 Start Hops of last RX ACK (SmartHops)

9/28/2012 09:40:26.541 [TX] - 02 62 1F D5 33 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3
9/28/2012 09:40:26.565 [RX] - 02 62 1F D5 33 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 1D  INSTEON STD RX
 Start Hops of 1

9/28/2012 09:40:33.485 [TX] - 02 62 1F D5 33 1F 20 1E 00 00 00 00 00 00
00 00 00 00 00 00 00 C2
9/28/2012 09:40:33.508 [RX] - 02 62 1F D5 33 1F 20 1E 00 00 00 00 00 00
00 00 00 00 00 00 00 C2 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 1E  INSTEON STD RX
 Single Line (Din Rail & Micro Module Only)

9/28/2012 09:40:37.136 [TX] - 02 62 1F D5 33 1F 20 1F 00 00 00 00 00 00
00 00 00 00 00 00 00 C1
9/28/2012 09:40:37.157 [RX] - 02 62 1F D5 33 1F 20 1F 00 00 00 00 00 00
00 00 00 00 00 00 00 C1 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 1F  INSTEON STD RX
 Dual Line (Din Rail & Micro Module Only)

9/28/2012 09:40:42.700 [TX] - 02 62 1F D5 33 1F 20 20 00 00 00 00 00 00
00 00 00 00 00 00 00 C0
9/28/2012 09:40:42.721 [RX] - 02 62 1F D5 33 1F 20 20 00 00 00 00 00 00
00 00 00 00 00 00 00 C0 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 20  INSTEON STD RX
 Latching Line (Din Rail & Micro Module Only)
```

```
9/28/2012 09:40:52.796 [TX] - 02 62 1F D5 33 1F 20 21 00 00 00 00 00 00
00 00 00 00 00 00 00 BF
9/28/2012 09:40:52.815 [RX] - 02 62 1F D5 33 1F 20 21 00 00 00 00 00 00
00 00 00 00 00 00 00 BF 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 21  INSTEON STD RX
 Momentary Line (Din Rail & Micro Module Only)

9/28/2012 09:40:58.411 [TX] - 02 62 1F D5 33 1F 20 22 00 00 00 00 00 00
00 00 00 00 00 00 00 BE
9/28/2012 09:40:58.430 [RX] - 02 62 1F D5 33 1F 20 22 00 00 00 00 00 00
00 00 00 00 00 00 00 BE 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 22  INSTEON STD RX
 Acts Like a Three Way (Din Rail & Micro Module Only)

9/28/2012 09:41:02.331 [TX] - 02 62 1F D5 33 1F 20 23 00 00 00 00 00 00
00 00 00 00 00 00 00 BD
9/28/2012 09:41:02.353 [RX] - 02 62 1F D5 33 1F 20 23 00 00 00 00 00 00
00 00 00 00 00 00 00 BD 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 20 23  INSTEON STD RX
 Not a Three Way (Din Rail & Micro Module Only)
```

Micro Module Relay:

```
7/23/2012 13:56:11.834 [TX] - 02 62 1F D3 B3 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0
7/23/2012 13:56:11.852 [RX] - 02 62 1F D3 B3 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 00  INSTEON STD RX
 Programming Lock On

7/23/2012 13:56:16.218 [TX] - 02 62 1F D3 B3 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF
7/23/2012 13:56:16.248 [RX] - 02 62 1F D3 B3 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 01  INSTEON STD RX
 Programming Lock Off

7/23/2012 13:56:20.203 [TX] - 02 62 1F D3 B3 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE
7/23/2012 13:56:20.227 [RX] - 02 62 1F D3 B3 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 02  INSTEON STD RX
 LED On with Insteon TX

7/23/2012 13:56:25.867 [TX] - 02 62 1F D3 B3 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD
7/23/2012 13:56:25.895 [RX] - 02 62 1F D3 B3 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 03  INSTEON STD RX
 LED Off with Insteon TX

7/23/2012 13:56:41.453 [TX] - 02 62 1F D3 B3 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8
7/23/2012 13:56:41.479 [RX] - 02 62 1F D3 B3 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 08  INSTEON STD RX
 LED Off
```

```
7/23/2012 13:56:46.493 [TX] - 02 62 1F D3 B3 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7
7/23/2012 13:56:46.518 [RX] - 02 62 1F D3 B3 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 09  INSTEON STD RX
 LED On

7/23/2012 13:56:49.709 [TX] - 02 62 1F D3 B3 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6
7/23/2012 13:56:49.733 [RX] - 02 62 1F D3 B3 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 0A  INSTEON STD RX
 KeyBeep On

7/23/2012 13:57:00.812 [TX] - 02 62 1F D3 B3 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5
7/23/2012 13:57:00.834 [RX] - 02 62 1F D3 B3 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 0B  INSTEON STD RX
 KeyBeep Off

7/23/2012 13:57:08.139 [TX] - 02 62 1F D3 B3 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4
7/23/2012 13:57:08.160 [RX] - 02 62 1F D3 B3 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 0C  INSTEON STD RX
 RF Off

7/23/2012 13:57:11.659 [TX] - 02 62 1F D3 B3 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3
7/23/2012 13:57:11.679 [RX] - 02 62 1F D3 B3 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 0D  INSTEON STD RX
 RF On

7/23/2012 13:57:14.874 [TX] - 02 62 1F D3 B3 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2
7/23/2012 13:57:14.895 [RX] - 02 62 1F D3 B3 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 0E  INSTEON STD RX
 Insteon Off

7/23/2012 13:57:20.922 [TX] - 02 62 1F D3 B3 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1
7/23/2012 13:57:20.944 [RX] - 02 62 1F D3 B3 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 0F  INSTEON STD RX
 Insteon On

7/23/2012 13:57:24.394 [TX] - 02 62 1F D3 B3 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0
7/23/2012 13:57:24.412 [RX] - 02 62 1F D3 B3 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 10  INSTEON STD RX
 TenD flag On

7/23/2012 14:05:31.792 [TX] - 02 62 1F D3 B3 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF
```

```
7/23/2012 14:05:31.819 [RX] - 02 62 1F D3 B3 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 11  INSTEON STD RX
 TenD flag Off

7/23/2012 14:05:36.079 [TX] - 02 62 1F D3 B3 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE
7/23/2012 14:05:36.105 [RX] - 02 62 1F D3 B3 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 12  INSTEON STD RX
 X10 Off flag On

7/23/2012 14:05:39.807 [TX] - 02 62 1F D3 B3 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD
7/23/2012 14:05:39.832 [RX] - 02 62 1F D3 B3 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 13  INSTEON STD RX
 X10 Off flag Off

7/23/2012 14:05:43.822 [TX] - 02 62 1F D3 B3 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC
7/23/2012 14:05:43.847 [RX] - 02 62 1F D3 B3 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 14  INSTEON STD RX
 Error Blink Off

7/23/2012 14:05:47.822 [TX] - 02 62 1F D3 B3 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB
7/23/2012 14:05:47.846 [RX] - 02 62 1F D3 B3 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 15  INSTEON STD RX
 Error Blink On

7/23/2012 14:05:54.669 [TX] - 02 62 1F D3 B3 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA
7/23/2012 14:05:54.692 [RX] - 02 62 1F D3 B3 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 16  INSTEON STD RX
 Cleanup Report Off

7/23/2012 14:05:59.520 [TX] - 02 62 1F D3 B3 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9
7/23/2012 14:05:59.538 [RX] - 02 62 1F D3 B3 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 17  INSTEON STD RX
 Cleanup Report On

7/23/2012 14:06:03.948 [TX] - 02 62 1F D3 B3 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8
7/23/2012 14:06:03.969 [RX] - 02 62 1F D3 B3 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 18  INSTEON STD RX
 Checksum Off for Database/Properties Write

7/23/2012 14:06:14.123 [TX] - 02 62 1F D3 B3 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7
7/23/2012 14:06:14.143 [RX] - 02 62 1F D3 B3 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7 06  INSTEON EXT TX
```

```
02 50 1F D3 B3 18 D3 21 2B 20 19  INSTEON STD RX
 Checksum On for Database/Properties Write

7/23/2012 14:06:19.817 [TX] - 02 62 1F D3 B3 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6
7/23/2012 14:06:19.835 [RX] - 02 62 1F D3 B3 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 1A  INSTEON STD RX
 Standard Holdoff

7/23/2012 14:06:23.753 [TX] - 02 62 1F D3 B3 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5
7/23/2012 14:06:23.770 [RX] - 02 62 1F D3 B3 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 1B  INSTEON STD RX
 Standard Holdoff *8

7/23/2012 14:06:30.376 [TX] - 02 62 1F D3 B3 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4
7/23/2012 14:06:30.392 [RX] - 02 62 1F D3 B3 1F 20 1C 00 00 00 00 00 00
00 00 00 00 00 00 00 C4 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 1C  INSTEON STD RX
 Start Hops of last RX ACK (SmartHops)

7/23/2012 14:06:34.472 [TX] - 02 62 1F D3 B3 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3
7/23/2012 14:06:34.487 [RX] - 02 62 1F D3 B3 1F 20 1D 00 00 00 00 00 00
00 00 00 00 00 00 00 C3 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 1D  INSTEON STD RX
 Start Hops of 1

7/23/2012 14:06:38.935 [TX] - 02 62 1F D3 B3 1F 20 1E 00 00 00 00 00 00
00 00 00 00 00 00 00 C2
7/23/2012 14:06:38.957 [RX] - 02 62 1F D3 B3 1F 20 1E 00 00 00 00 00 00
00 00 00 00 00 00 00 C2 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 1E  INSTEON STD RX
 Single Line (Din Rail & Micro Module Only)

7/23/2012 14:06:42.422 [TX] - 02 62 1F D3 B3 1F 20 1F 00 00 00 00 00 00
00 00 00 00 00 00 00 C1
7/23/2012 14:06:42.436 [RX] - 02 62 1F D3 B3 1F 20 1F 00 00 00 00 00 00
00 00 00 00 00 00 00 C1 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 1F  INSTEON STD RX
 Dual Line (Din Rail & Micro Module Only)

7/23/2012 14:06:46.086 [TX] - 02 62 1F D3 B3 1F 20 20 00 00 00 00 00 00
00 00 00 00 00 00 00 C0
7/23/2012 14:06:46.107 [RX] - 02 62 1F D3 B3 1F 20 20 00 00 00 00 00 00
00 00 00 00 00 00 00 C0 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 20  INSTEON STD RX
 Latching Line (Din Rail & Micro Module Only)

7/23/2012 14:06:53.445 [TX] - 02 62 1F D3 B3 1F 20 21 00 00 00 00 00 00
00 00 00 00 00 00 00 BF
7/23/2012 14:06:53.465 [RX] - 02 62 1F D3 B3 1F 20 21 00 00 00 00 00 00
00 00 00 00 00 00 00 BF 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 21  INSTEON STD RX
 Momentary Line (Din Rail & Micro Module Only)
```

```
7/23/2012 14:06:59.220 [TX] - 02 62 1F D3 B3 1F 20 22 00 00 00 00 00 00
00 00 00 00 00 00 00 BE
7/23/2012 14:06:59.247 [RX] - 02 62 1F D3 B3 1F 20 22 00 00 00 00 00 00
00 00 00 00 00 00 00 BE 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 22  INSTEON STD RX
 Acts Like a Three Way (Din Rail & Micro Module Only)

7/23/2012 14:07:02.660 [TX] - 02 62 1F D3 B3 1F 20 23 00 00 00 00 00 00
00 00 00 00 00 00 00 BD
7/23/2012 14:07:02.686 [RX] - 02 62 1F D3 B3 1F 20 23 00 00 00 00 00 00
00 00 00 00 00 00 00 BD 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 20 23  INSTEON STD RX
 Not a Three Way (Din Rail & Micro Module Only)
```

Din Rail Dimmer:

Din Rail Relay:

```
7/26/2012 17:41:32.582 [TX] - 02 62 11 CC F8 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0
7/26/2012 17:41:32.605 [RX] - 02 62 11 CC F8 1F 20 00 00 00 00 00 00 00
00 00 00 00 00 00 00 E0 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 00  INSTEON STD RX
 Programming Lock On

7/26/2012 17:41:51.284 [TX] - 02 62 11 CC F8 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF
7/26/2012 17:41:51.304 [RX] - 02 62 11 CC F8 1F 20 01 00 00 00 00 00 00
00 00 00 00 00 00 00 DF 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 01  INSTEON STD RX
 Programming Lock Off

7/26/2012 17:42:17.619 [TX] - 02 62 11 CC F8 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE
7/26/2012 17:42:17.634 [RX] - 02 62 11 CC F8 1F 20 02 00 00 00 00 00 00
00 00 00 00 00 00 00 DE 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 02  INSTEON STD RX
 LED On with Insteon TX

7/26/2012 17:42:32.866 [TX] - 02 62 11 CC F8 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD
7/26/2012 17:42:32.884 [RX] - 02 62 11 CC F8 1F 20 03 00 00 00 00 00 00
00 00 00 00 00 00 00 DD 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 03  INSTEON STD RX
 LED Off with Insteon TX

7/26/2012 17:43:15.311 [TX] - 02 62 11 CC F8 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8
7/26/2012 17:43:15.333 [RX] - 02 62 11 CC F8 1F 20 08 00 00 00 00 00 00
00 00 00 00 00 00 00 D8 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 08  INSTEON STD RX
 LED Off

7/26/2012 17:43:19.535 [TX] - 02 62 11 CC F8 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7
7/26/2012 17:43:19.556 [RX] - 02 62 11 CC F8 1F 20 09 00 00 00 00 00 00
00 00 00 00 00 00 00 D7 06  INSTEON EXT TX
```

```
02 50 11 CC F8 18 D3 21 2B 20 09  INSTEON STD RX
 LED On

7/26/2012 17:43:51.661 [TX] - 02 62 11 CC F8 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6
7/26/2012 17:43:51.677 [RX] - 02 62 11 CC F8 1F 20 0A 00 00 00 00 00 00
00 00 00 00 00 00 00 D6 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 0A  INSTEON STD RX
 KeyBeep On

7/26/2012 17:43:55.853 [TX] - 02 62 11 CC F8 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5
7/26/2012 17:43:55.867 [RX] - 02 62 11 CC F8 1F 20 0B 00 00 00 00 00 00
00 00 00 00 00 00 00 D5 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 0B  INSTEON STD RX
 KeyBeep Off

7/26/2012 17:56:50.579 [TX] - 02 62 11 CC F8 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4
7/26/2012 17:56:50.603 [RX] - 02 62 11 CC F8 1F 20 0C 00 00 00 00 00 00
00 00 00 00 00 00 00 D4 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 0C  INSTEON STD RX
 RF Off

7/26/2012 17:56:59.410 [TX] - 02 62 11 CC F8 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3
7/26/2012 17:56:59.432 [RX] - 02 62 11 CC F8 1F 20 0D 00 00 00 00 00 00
00 00 00 00 00 00 00 D3 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 0D  INSTEON STD RX
 RF On

7/26/2012 17:57:36.895 [TX] - 02 62 11 CC F8 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2
7/26/2012 17:57:36.918 [RX] - 02 62 11 CC F8 1F 20 0E 00 00 00 00 00 00
00 00 00 00 00 00 00 D2 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 0E  INSTEON STD RX
 Insteon Off

7/26/2012 17:58:28.828 [TX] - 02 62 11 CC F8 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1
7/26/2012 17:58:28.852 [RX] - 02 62 11 CC F8 1F 20 0F 00 00 00 00 00 00
00 00 00 00 00 00 00 D1 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 0F  INSTEON STD RX
 Insteon On
02 50 11 CC F8 18 D3 21 23 20 0F  INSTEON STD RX
 Insteon On

7/26/2012 17:59:43.096 [TX] - 02 62 11 CC F8 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF
7/26/2012 17:59:43.111 [RX] - 02 62 11 CC F8 1F 20 11 00 00 00 00 00 00
00 00 00 00 00 00 00 CF 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 11  INSTEON STD RX
 TenD flag Off

7/26/2012 17:59:56.535 [TX] - 02 62 11 CC F8 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0
7/26/2012 17:59:56.547 [RX] - 02 62 11 CC F8 1F 20 10 00 00 00 00 00 00
00 00 00 00 00 00 00 D0 06  INSTEON EXT TX
```

```
02 50 11 CC F8 18 D3 21 2B 20 10  INSTEON STD RX
 TenD flag On

7/26/2012 18:01:24.481 [TX] - 02 62 11 CC F8 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE
7/26/2012 18:01:24.507 [RX] - 02 62 11 CC F8 1F 20 12 00 00 00 00 00 00
00 00 00 00 00 00 00 CE 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 12  INSTEON STD RX
 X10 Off flag On

7/26/2012 18:01:28.305 [TX] - 02 62 11 CC F8 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD
7/26/2012 18:01:28.330 [RX] - 02 62 11 CC F8 1F 20 13 00 00 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 13  INSTEON STD RX
 X10 Off flag Off

7/27/2012 10:01:14.388 [TX] - 02 62 11 CC F8 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC
7/27/2012 10:01:14.416 [RX] - 02 62 11 CC F8 1F 20 14 00 00 00 00 00 00
00 00 00 00 00 00 00 CC 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 14  INSTEON STD RX
 Error Blink Off

7/27/2012 10:01:18.999 [TX] - 02 62 11 CC F8 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB
7/27/2012 10:01:19.027 [RX] - 02 62 11 CC F8 1F 20 15 00 00 00 00 00 00
00 00 00 00 00 00 00 CB 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 15  INSTEON STD RX
 Error Blink On

7/27/2012 10:02:10.973 [TX] - 02 62 11 CC F8 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA
7/27/2012 10:02:10.991 [RX] - 02 62 11 CC F8 1F 20 16 00 00 00 00 00 00
00 00 00 00 00 00 00 CA 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 16  INSTEON STD RX
 Cleanup Report Off

7/27/2012 10:03:24.249 [TX] - 02 62 11 CC F8 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9
7/27/2012 10:03:24.270 [RX] - 02 62 11 CC F8 1F 20 17 00 00 00 00 00 00
00 00 00 00 00 00 00 C9 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 17  INSTEON STD RX
 Cleanup Report On

7/27/2012 10:21:45.256 [TX] - 02 62 11 CC F8 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8
7/27/2012 10:21:45.273 [RX] - 02 62 11 CC F8 1F 20 18 00 00 00 00 00 00
00 00 00 00 00 00 00 C8 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 18  INSTEON STD RX
 Checksum Off for Database/Properties Write

7/27/2012 10:21:50.392 [TX] - 02 62 11 CC F8 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7
7/27/2012 10:21:50.407 [RX] - 02 62 11 CC F8 1F 20 19 00 00 00 00 00 00
00 00 00 00 00 00 00 C7 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 19  INSTEON STD RX
 Checksum On for Database/Properties Write
```

```
7/27/2012 10:21:54.827 [TX] - 02 62 11 CC F8 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6
7/27/2012 10:21:54.845 [RX] - 02 62 11 CC F8 1F 20 1A 00 00 00 00 00 00
00 00 00 00 00 00 00 C6 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 1A  INSTEON STD RX
 Standard Holdoff

7/27/2012 10:21:59.083 [TX] - 02 62 11 CC F8 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5
7/27/2012 10:21:59.096 [RX] - 02 62 11 CC F8 1F 20 1B 00 00 00 00 00 00
00 00 00 00 00 00 00 C5 06  INSTEON EXT TX
02 50 11 CC F8 18 D3 21 2B 20 1B  INSTEON STD RX
 Standard Holdoff *8
```

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Get for Group/Button	To device	Sender's ID	Device's ID	Extended Direct	0x2E	0x00	0x00 -> 0xFF (Group/Button)	0x00
	Response	Device's ID	Sender's ID	Standard Ack	0x2E	0x00	N/A	N/A
	From device	Device's ID	Sender's ID	Extended Direct	0x2E	0x00	Same as sent	See Returned Extended Get Message Info

Returned Extended Get Message Info									
Data 2 (1 byte)	**Data 3**	**Data 4**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**Data 10**	**Data 14**
0x01	N/A	N/A	N/A	N/A	Ramp Rate	On-Level	LED brightness	N/A	N/A

Plug-In Dimmer:

```
7/25/2012 17:55:32.844 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 17:55:32.855 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 27 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Plug-In Relay:

```
7/25/2012 10:36:37.858 [TX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:36:37.883 [RX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Micro Module Dimmer:

```
9/28/2012 09:42:27.639 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 09:42:27.659 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
```

```
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Micro Module Relay:

```
7/23/2012 14:41:37.172 [TX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:41:37.203 [RX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Din Rail Dimmer:

Din Rail Relay:

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Set for Ramp Rate (Dimmers only)	To device	Sender's ID	Device's ID	Extended Direct	0x2E	0x00	**0x00 (other values are ignored)**	See Set Ramp Rate Info
	Response	Device's ID	Sender's ID	Standard Ack	0x2E	0x00	N/A	N/A

Set Ramp Rate Info									
Data 2 (1 byte)	**Data 3**	**Data 4**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**Data 10**	**Data 14**
0x05	0x00 -> 0x1F (Ramp Rate)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Checksum

Plug-In Dimmer:

```
7/25/2012 17:55:32.844 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 17:55:32.855 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 27 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/25/2012 17:55:57.213 [TX] - 02 62 00 10 3A 1F 2E 00 00 05 00 00 00 00
00 00 00 00 00 00 00 CD
7/25/2012 17:55:57.233 [RX] - 02 62 00 10 3A 1F 2E 00 00 05 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
 Set Ramp Rate - 9 Second Ramp Rate (Dimmer Only)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/25/2012 17:56:22.135 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
```

```
7/25/2012 17:56:22.154 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 00 FE 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/25/2012 17:57:57.864 [TX] - 02 62 00 10 3A 1F 2E 00 00 05 1F 00 00 00
00 00 00 00 00 00 00 AE
7/25/2012 17:57:57.882 [RX] - 02 62 00 10 3A 1F 2E 00 00 05 1F 00 00 00
00 00 00 00 00 00 00 AE 06  INSTEON EXT TX
 Set Ramp Rate - Fastest Ramp Rate (Dimmer Only)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/25/2012 17:56:32.966 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 17:56:32.989 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FE 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Micro Module Dimmer:

```
9/28/2012 09:42:27.639 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 09:42:27.659 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 09:57:43.199 [TX] - 02 62 1F D5 33 1F 2E 00 00 05 00 00 00 00
00 00 00 00 00 00 00 CD
9/28/2012 09:57:43.226 [RX] - 02 62 1F D5 33 1F 2E 00 00 05 00 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
 Set Ramp Rate - 9 Second Ramp Rate (Dimmer Only)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 09:57:47.885 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 09:57:47.900 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 00 FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 09:57:54.317 [TX] - 02 62 1F D5 33 1F 2E 00 00 05 1F 00 00 00
00 00 00 00 00 00 00 AE
9/28/2012 09:57:54.338 [RX] - 02 62 1F D5 33 1F 2E 00 00 05 1F 00 00 00
00 00 00 00 00 00 00 AE 06  INSTEON EXT TX
 Set Ramp Rate - Fastest Ramp Rate (Dimmer Only)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 09:57:58.765 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
```

```
9/28/2012 09:57:58.791 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Din Rail Dimmer:

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Set for On Level (Dimmers only)	To device	Sender's ID	Device's ID	Extended Direct	0x2E	0x00	**0x00 (other values are ignored)**	See Set On Level Info
	Response	Device's ID	Sender's ID	Standard Ack	0x2E	0x00	N/A	N/A

Set On Level Info									
Data 2 (1 byte)	**Data 3**	**Data 4**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**Data 10**	**Data 14**
0x06	0x00 -> 0xFF (On Level)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Checksum

Plug-In Dimmer:

```
7/26/2012 08:59:03.874 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00 00 00 00 00 00 00 00 00
7/26/2012 08:59:03.887 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FE 3F 00 01 00 00 00  INSTEON EXT RX
 Get for Group/Button

7/26/2012 09:06:52.346 [TX] - 02 62 00 10 3A 1F 2E 00 00 06 7F 00 00 00 00 00 00 00 00 00 00 4D
7/26/2012 09:06:52.368 [RX] - 02 62 00 10 3A 1F 2E 00 00 06 7F 00 00 00 00 00 00 00 00 00 00 4D 06  INSTEON EXT TX
 Set On-Level - 50% On (Dimmer Only)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/26/2012 09:06:57.806 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00 00 00 00 00 00 00 00 00
7/26/2012 09:06:57.830 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F 7F 3F 00 01 00 00 00  INSTEON EXT RX
 Get for Group/Button
```

```
7/26/2012 09:07:02.488 [TX] - 02 62 00 10 3A 1F 2E 00 00 06 FF 00 00 00
00 00 00 00 00 00 00 CD
7/26/2012 09:07:02.511 [RX] - 02 62 00 10 3A 1F 2E 00 00 06 FF 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
 Set On-Level - Brightest (Dimmer Only)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/26/2012 09:07:07.123 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:07:07.146 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FF 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Micro Module Dimmer:

```
9/28/2012 09:57:58.765 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 09:57:58.791 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 10:03:52.709 [TX] - 02 62 1F D5 33 1F 2E 00 00 06 7F 00 00 00
00 00 00 00 00 00 00 4D
9/28/2012 10:03:52.731 [RX] - 02 62 1F D5 33 1F 2E 00 00 06 7F 00 00 00
00 00 00 00 00 00 00 4D 06  INSTEON EXT TX
 Set On-Level - 50% On (Dimmer Only)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 10:03:56.467 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:03:56.482 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F 7F 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 10:04:01.284 [TX] - 02 62 1F D5 33 1F 2E 00 00 06 FF 00 00 00
00 00 00 00 00 00 00 CD
9/28/2012 10:04:01.309 [RX] - 02 62 1F D5 33 1F 2E 00 00 06 FF 00 00 00
00 00 00 00 00 00 00 CD 06  INSTEON EXT TX
 Set On-Level - Brightest (Dimmer Only)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 10:04:06.465 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:04:06.481 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FF 11 00 01 00 00
00  INSTEON EXT RX
```

```
Get for Group/Button
```

Din Rail Dimmer:

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Set for LED Brightness	To device	Sender's ID	Device's ID	Extended Direct	0x2E	0x00	0x00	See Set LED Brightness Info
	Response	Device's ID	Sender's ID	Standard Ack	0x2E	0x00	N/A	N/A

Set LED Brightness Info									
Data 2 (1 byte)	**Data 3**	**Data 4**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**Data 10**	**Data 14**
0x07	0x11 -> 0x7F (LED brightness, 0x11 = least bright, 0x7F = most bright)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Checksum

Plug-In Dimmer:

```
7/26/2012 09:08:38.646 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:08:38.668 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
```

```
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F 7F 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/26/2012 09:08:44.070 [TX] - 02 62 00 10 3A 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA
7/26/2012 09:08:44.089 [RX] - 02 62 00 10 3A 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA 06  INSTEON EXT TX
 Set LED Brightness (Low)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/26/2012 09:08:49.868 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:08:49.891 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F 7F 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/26/2012 09:08:54.781 [TX] - 02 62 00 10 3A 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93
7/26/2012 09:08:54.811 [RX] - 02 62 00 10 3A 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93 06  INSTEON EXT TX
 Set LED Brightness (Mid)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/26/2012 09:08:59.020 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:08:59.034 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F 7F 38 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/26/2012 09:09:03.980 [TX] - 02 62 00 10 3A 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C
7/26/2012 09:09:04.008 [RX] - 02 62 00 10 3A 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C 06  INSTEON EXT TX
 Set LED Brightness (High)
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX

7/26/2012 09:09:08.747 [TX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:09:08.747 [RX] - 02 62 00 10 3A 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 10 3A 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2E 00 01 01 00 00 20 20 1F 7F 7F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Plug-In Relay:

```
7/25/2012 10:36:37.858 [TX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:36:37.883 [RX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX
```

```
02 51 00 20 66 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 3F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/25/2012 10:37:12.678 [TX] - 02 62 00 20 66 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA
7/25/2012 10:37:12.697 [RX] - 02 62 00 20 66 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA 06  INSTEON EXT TX
 Set LED Brightness (Low)
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX

7/25/2012 10:37:16.951 [TX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:37:16.976 [RX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/25/2012 10:37:21.509 [TX] - 02 62 00 20 66 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93
7/25/2012 10:37:21.526 [RX] - 02 62 00 20 66 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93 06  INSTEON EXT TX
 Set LED Brightness (Mid)
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX

7/25/2012 10:37:26.276 [TX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:37:26.292 [RX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 38 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/25/2012 10:37:31.258 [TX] - 02 62 00 20 66 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C
7/25/2012 10:37:31.282 [RX] - 02 62 00 20 66 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C 06  INSTEON EXT TX
 Set LED Brightness (High)
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX

7/25/2012 10:37:35.811 [TX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:37:35.825 [RX] - 02 62 00 20 66 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 00 20 66 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 7F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Micro Module Dimmer:

```
9/28/2012 10:04:06.465 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:04:06.481 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
```

```
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FF 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 10:05:03.536 [TX] - 02 62 1F D5 33 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA
9/28/2012 10:05:03.566 [RX] - 02 62 1F D5 33 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA 06  INSTEON EXT TX
 Set LED Brightness (Low)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 10:05:14.383 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:05:14.397 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FF 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 10:05:21.119 [TX] - 02 62 1F D5 33 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93
9/28/2012 10:05:21.145 [RX] - 02 62 1F D5 33 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93 06  INSTEON EXT TX
 Set LED Brightness (Mid)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 10:05:26.431 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:05:26.444 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FF 38 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

9/28/2012 10:05:31.694 [TX] - 02 62 1F D5 33 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C
9/28/2012 10:05:31.718 [RX] - 02 62 1F D5 33 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C 06  INSTEON EXT TX
 Set LED Brightness (High)
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX

9/28/2012 10:05:36.350 [TX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:05:36.374 [RX] - 02 62 1F D5 33 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D5 33 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2E 00 01 01 00 00 20 20 1F FF 7F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Micro Module Relay:

```
7/23/2012 14:41:37.172 [TX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:41:37.203 [RX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
```

```
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/23/2012 14:45:11.925 [TX] - 02 62 1F D3 B3 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA
7/23/2012 14:45:11.939 [RX] - 02 62 1F D3 B3 1F 2E 00 00 07 11 00 00 00
00 00 00 00 00 00 00 BA 06  INSTEON EXT TX
 Set LED Brightness (Low)
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX

7/23/2012 14:45:16.260 [TX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:45:16.284 [RX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 11 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/23/2012 14:45:20.937 [TX] - 02 62 1F D3 B3 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93
7/23/2012 14:45:20.959 [RX] - 02 62 1F D3 B3 1F 2E 00 00 07 38 00 00 00
00 00 00 00 00 00 00 93 06  INSTEON EXT TX
 Set LED Brightness (Mid)
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX

7/23/2012 14:45:25.185 [TX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:45:25.202 [RX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 38 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button

7/23/2012 14:45:29.058 [TX] - 02 62 1F D3 B3 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C
7/23/2012 14:45:29.071 [RX] - 02 62 1F D3 B3 1F 2E 00 00 07 7F 00 00 00
00 00 00 00 00 00 00 4C 06  INSTEON EXT TX
 Set LED Brightness (High)
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX

7/23/2012 14:45:32.798 [TX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:45:32.814 [RX] - 02 62 1F D3 B3 1F 2E 00 01 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
02 50 1F D3 B3 18 D3 21 2B 2E 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2E 00 01 01 00 00 20 20 1C FE 7F 00 01 00 00
00  INSTEON EXT RX
 Get for Group/Button
```

Din Rail Dimmer:

Din Rail Relay:

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Get Database	To device	Sender's ID	Device's ID	Extended Direct	0x2F	0x00	0x00 -> 0xFF (Don't Care Value)	See Get Database Info
	Response	Device's ID	Sender's ID	Standard Ack	0x2F	0x00	N/A	N/A
	From device	Device's ID	Sender's ID	Extended Direct	0x2F	0x00	Same as sent	See Returned Extended Get Database Info

Get Database Info									
Data 2 (1 byte)	**Data 3**	**Data 4**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**Data 10**	**Data 14**
0x00	0x00 -> 0xFF (Hi Byte Address)	0x00 -> 0xFF (Lo Byte Address)	0x00 -> 0xFF (# of Records, 0x00 dumps all records	N/A	N/A	N/A	N/A	N/A	N/a

Returned Extended Get Database Info (will continue to be sent until # of records is sent or until the first never been used record is sent)									
Data 2 (1 byte)	**Data 3**	**Data 4 (1 byte)**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**…**	**Data 14**
0x01	0x00 -> 0xFF (Hi Byte Address)	0x00 -> 0xFF (Lo Byte Address)	0x00	Byte 1 of record	Byte 2 of record	Byte 3 of record	Byte 4 of record		Byte 8 of record

Plug-In Dimmer:

```
7/26/2012 09:09:50.603 [TX] - 02 62 00 10 3A 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:09:50.623 [RX] - 02 62 00 10 3A 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 00 10 3A 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 FF 1C 01
CF  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 84 6A 03 1C 01
9C  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F E7 20 EA 01 1D 86 1E 03 1C 01
EE  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Plug-In Relay:

```
7/25/2012 10:38:06.719 [TX] - 02 62 00 20 66 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:38:06.744 [RX] - 02 62 00 20 66 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 00 20 66 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 00 1C 01
CE  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 86 1E 03 1C 01
E6  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F E7 20 EA 01 1D 84 6A 03 1C 01
A4  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Micro Module Dimmer:

```
9/28/2012 10:06:10.604 [TX] - 02 62 1F D5 33 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
```

```
9/28/2012 10:06:10.628 [RX] - 02 62 1F D5 33 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 1F D5 33 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 FF 1C 01
CF  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 14 23 05 03 1C 01
6B  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F E7 20 AA 01 14 23 05 FE 1C 01
B8  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Micro Module Relay:

```
7/23/2012 14:54:55.670 [TX] - 02 62 1F D3 B3 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:54:55.694 [RX] - 02 62 1F D3 B3 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 1F D3 B3 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 00 1C 01
CE  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 86 1E 03 1C 01
E6  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F E7 20 EA 01 1D 84 6A 03 1C 01
A4  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Din Rail Dimmer:

Din Rail Relay:

Extended Command	Message Direction	From Address (3 bytes)	To Address (3 bytes)	Message type	Cmd1 (1 byte)	Cmd2 (1 byte)	Data 1 (1 byte)	Data 2 (1 byte)
Set Database	To device	Sender's ID	Device's ID	Extended Direct	0x2F	0x00	0x00 -> 0xFF (Don't Care Value)	See Set Database Info
	Response	Device's ID	Sender's ID	Standard Ack	0x2F	0x00	N/A	N/A

Set Database Info									
Data 2 (1 byte)	**Data 3**	**Data 4 (1 byte)**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**Data 13**	**Data 14**
0x02	0x00 -> 0xFF (Hi Byte Address)	0x00 -> 0xFF (Lo Byte Address)	0x01 -> 0x08 (# of bytes to write, over 0x08 is an error and ignored)	Byte 1 of data	Byte 2 of data	Byte 3 of data	Byte 4 of data	Byte 8 of data	Checksum

Plug-In Dimmer:

```
7/26/2012 09:09:50.603 [TX] - 02 62 00 10 3A 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:09:50.623 [RX] - 02 62 00 10 3A 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 00 10 3A 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 FF 1C 01
CF  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 84 6A 03 1C 01
9C  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F E7 20 EA 01 1D 86 1E 03 1C 01
EE  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX

7/26/2012 09:12:45.586 [TX] - 02 62 00 10 3A 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80
7/26/2012 09:12:45.606 [RX] - 02 62 00 10 3A 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80 06  INSTEON EXT TX
 Set Database
02 50 00 10 3A 18 D3 21 2B 2F 00  INSTEON STD RX

7/26/2012 09:12:50.157 [TX] - 02 62 00 10 3A 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/26/2012 09:12:50.178 [RX] - 02 62 00 10 3A 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 00 10 3A 18 D3 21 2B 2F 00  INSTEON STD RX
```

```
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 FF 1C 01
CF  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 84 6A 03 1C 01
9C  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F E7 20 AA 01 16 98 DC FF 1C 01
69  INSTEON EXT RX
02 51 00 10 3A 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Plug-In Relay:

```
7/25/2012 10:38:06.719 [TX] - 02 62 00 20 66 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:38:06.744 [RX] - 02 62 00 20 66 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 00 20 66 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 00 1C 01
CE  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 86 1E 03 1C 01
E6  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F E7 20 EA 01 1D 84 6A 03 1C 01
A4  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX

7/25/2012 10:38:35.482 [TX] - 02 62 00 20 66 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80
7/25/2012 10:38:35.503 [RX] - 02 62 00 20 66 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80 06  INSTEON EXT TX
 Set Database
02 50 00 20 66 18 D3 21 2B 2F 00  INSTEON STD RX

7/25/2012 10:38:40.586 [TX] - 02 62 00 20 66 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/25/2012 10:38:40.613 [RX] - 02 62 00 20 66 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 00 20 66 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 00 1C 01
CE  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 86 1E 03 1C 01
E6  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F E7 20 AA 01 16 98 DC FF 1C 01
69  INSTEON EXT RX
02 51 00 20 66 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Micro Module Dimmer:

```
9/28/2012 10:06:10.604 [TX] - 02 62 1F D5 33 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
```

```
9/28/2012 10:06:10.628 [RX] - 02 62 1F D5 33 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 1F D5 33 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 FF 1C 01
CF  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 14 23 05 03 1C 01
6B  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F E7 20 AA 01 14 23 05 FE 1C 01
B8  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX

9/28/2012 10:06:22.338 [TX] - 02 62 1F D5 33 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80
9/28/2012 10:06:22.363 [RX] - 02 62 1F D5 33 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80 06  INSTEON EXT TX
 Set Database
02 50 1F D5 33 18 D3 21 2B 2F 00  INSTEON STD RX

9/28/2012 10:06:26.572 [TX] - 02 62 1F D5 33 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
9/28/2012 10:06:26.595 [RX] - 02 62 1F D5 33 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 1F D5 33 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 FF 1C 01
CF  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 14 23 05 03 1C 01
6B  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F E7 20 AA 01 16 98 DC FF 1C 01
69  INSTEON EXT RX
02 51 1F D5 33 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Micro Module Relay:

```
7/23/2012 14:54:55.670 [TX] - 02 62 1F D3 B3 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:54:55.694 [RX] - 02 62 1F D3 B3 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 1F D3 B3 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 00 1C 01
CE  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 86 1E 03 1C 01
E6  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F E7 20 EA 01 1D 84 6A 03 1C 01
A4  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

```
7/23/2012 14:56:51.835 [TX] - 02 62 1F D3 B3 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80
7/23/2012 14:56:51.854 [RX] - 02 62 1F D3 B3 1F 2F 00 00 02 0F E7 08 AA
01 16 98 DC FF 1C 01 80 06  INSTEON EXT TX
 Set Database
02 50 1F D3 B3 18 D3 21 2B 2F 00  INSTEON STD RX

7/23/2012 14:56:55.963 [TX] - 02 62 1F D3 B3 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00
7/23/2012 14:56:55.985 [RX] - 02 62 1F D3 B3 1F 2F 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Get Database
02 50 1F D3 B3 18 D3 21 2B 2F 00  INSTEON STD RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F FF 20 AA 01 18 D3 21 00 1C 01
CE  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F F7 20 EA 01 18 D3 21 03 1C 01
93  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F EF 20 EA 01 1D 86 1E 03 1C 01
E6  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F E7 20 AA 01 16 98 DC FF 1C 01
69  INSTEON EXT RX
02 51 1F D3 B3 18 D3 21 11 2F 00 00 01 0F DF 20 00 00 00 00 00 00 00 00
C2  INSTEON EXT RX
```

Din Rail Dimmer:

Din Rail Relay:

Extended Command	**Message Direction**	**From Address (3 bytes)**	**To Address (3 bytes)**	**Message type**	**Cmd1 (1 byte)**	**Cmd2 (1 byte)**	**Data 1 (1 byte)**	**Data 2 (1 byte)**
Trigger Group	To device	Sender's ID	Device's ID	Extended Direct	0x30	0x00	0x00 -> 0xFF (Group/Button)	See Trigger Group Info
	Response	Device's ID	Sender's ID	Standard Ack	0x30	0x00	N/A	N/A

Trigger Group Info									
Data 2 (1 byte)	**Data 3**	**Data 4 (1 byte)**	**Data 5**	**Data 6**	**Data 7**	**Data 8**	**Data 9**	**…**	**Data 13**
0x00 = use local On-Level, 0x01 = use Data 3 Level (Note: The Command to the group is not parsed, so if you want the local load to go off, you must set data2 to 1 and data3 to 0)	0x00 -> 0xFF (On-Level if data2 = 0x01)	Cmd1	Cmd2	0x00 = local Ramp Rate, 0x01 = instant Ramp Rate	N/A	N/A	N/A		N/A

Plug-In Dimmer:

```
7/26/2012 09:14:30.608 [TX] - 02 62 00 10 3A 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 00
7/26/2012 09:14:30.625 [RX] - 02 62 00 10 3A 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Full On, Local On-Level and Local Ramp Rate)
02 50 00 10 3A 18 D3 21 2B 30 00  INSTEON STD RX
02 50 00 10 3A 00 00 01 CB 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)
02 50 00 10 3A 18 D3 21 41 11 01  INSTEON STD RX
02 50 00 10 3A 11 04 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)
```

```
7/26/2012 09:14:36.528 [TX] - 02 62 00 10 3A 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06
7/26/2012 09:14:36.545 [RX] - 02 62 00 10 3A 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Off, Local Load 50% On and Instant Ramp Rate)
02 50 00 10 3A 18 D3 21 2B 30 00  INSTEON STD RX
02 50 00 10 3A 00 00 01 CB 13 00  INSTEON STD RX
 Light OFF
02 50 00 10 3A 18 D3 21 41 13 01  INSTEON STD RX
 Light OFF
02 50 00 10 3A 13 05 01 CB 06 00  INSTEON STD RX
 Broadcast Cleanup
 Broadcast Cleanup (Zero Error)
```

Plug-In Relay:

```
7/25/2012 10:40:37.410 [TX] - 02 62 00 20 66 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 00
7/25/2012 10:40:37.424 [RX] - 02 62 00 20 66 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Full On, Local On-Level and Local Ramp Rate)
02 50 00 20 66 18 D3 21 2B 30 00  INSTEON STD RX
02 50 00 20 66 00 00 01 CB 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)
02 50 00 20 66 18 D3 21 41 11 01  INSTEON STD RX

7/25/2012 10:40:50.580 [TX] - 02 62 00 20 66 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06
7/25/2012 10:40:50.606 [RX] - 02 62 00 20 66 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Off, Local Load 50% On and Instant Ramp Rate)
02 50 00 20 66 18 D3 21 2B 30 00  INSTEON STD RX
02 50 00 20 66 00 00 01 CB 13 00  INSTEON STD RX
 Light OFF
02 50 00 20 66 18 D3 21 41 13 01  INSTEON STD RX
 Light OFF
```

Micro Module Dimmer:

```
9/28/2012 10:07:29.880 [TX] - 02 62 1F D5 33 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 00
9/28/2012 10:07:29.903 [RX] - 02 62 1F D5 33 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Full On, Local On-Level and Local Ramp Rate)
02 50 1F D5 33 18 D3 21 2B 30 00  INSTEON STD RX
02 50 1F D5 33 00 00 01 CB 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)
02 50 1F D5 33 18 D3 21 41 11 01  INSTEON STD RX

9/28/2012 10:07:37.479 [TX] - 02 62 1F D5 33 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06
9/28/2012 10:07:37.497 [RX] - 02 62 1F D5 33 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Off, Local Load 50% On and Instant Ramp Rate)
02 50 1F D5 33 18 D3 21 2B 30 00  INSTEON STD RX
02 50 1F D5 33 00 00 01 CB 13 00  INSTEON STD RX
 Light OFF
02 50 1F D5 33 18 D3 21 41 13 01  INSTEON STD RX
 Light OFF
```

Micro Module Relay:

```
7/25/2012 09:31:56.831 [TX] - 02 62 1F D3 B3 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 00
7/25/2012 09:31:56.856 [RX] - 02 62 1F D3 B3 1F 30 00 01 00 00 11 FF 00
00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Full On, Local On-Level and Local Ramp Rate)
02 50 1F D3 B3 18 D3 21 2B 30 00  INSTEON STD RX
02 50 1F D3 B3 00 00 01 CB 11 FF  INSTEON STD RX
 Light ON (Relay: Full On, Dimmer: Full On)
02 50 1F D3 B3 18 D3 21 41 11 01  INSTEON STD RX

7/25/2012 09:32:09.400 [TX] - 02 62 1F D3 B3 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06
7/25/2012 09:32:09.420 [RX] - 02 62 1F D3 B3 1F 30 00 01 01 7F 13 00 01
00 00 00 00 00 00 00 00 06  INSTEON EXT TX
 Trigger Group (Group1 Off, Local Load 50% On and Instant Ramp Rate)
02 50 1F D3 B3 18 D3 21 2B 30 00  INSTEON STD RX
02 50 1F D3 B3 00 00 01 CB 13 00  INSTEON STD RX
 Light OFF
02 50 1F D3 B3 18 D3 21 41 13 01  INSTEON STD RX
 Light OFF
```

Din Rail Dimmer:

Din Rail Relay:

Checksum Information

For Set Database, Set Properties and 0x20, Data14 will contain a 2s compliment of cmd1 through 2nd to last data record in the last data record.

Example of Checksum:

01 02 03 04 05 06 1F 2F 00 01 02 0F FF 08 E2 01 08 B6 EA 00 1B 01 11
From 01.02.03 to 04.05.06
a record at 0FFF (A valid boundary)
08 bytes a record that 04.05.06 will control
Group 1 the responder is 08.B6.EA (00 1B 01 DNC)
11 is the check sum

Int	Hex	
47	2F	
0	00	
1	01	
2	02	
15	0F	
255	FF	
8	08	
226	E2	
1	01	
8	08	
182	B6	
234	EA	
0	00	
27	1B	
1	01	
1007	3EF	Sum
	10	Compliment (Last byte)
	11	Add 1

Memory Map

All-Link Database (AL /L) Overview

The AL /L starts at the top of external (serial) EEPROM and grows downward. In the Global Line, top of memory is 0x0FFF. Each AL /L Record is 8 bytes long, so the first record starts at 0x0FF8, the second record starts at 0x0FF0, and so on down to 0x0300 for a total of 416 links. In what follows, the 3-byte INSTEON Address contained in a record is called the *Device ID* or sometimes just the *ID*. The high byte (MSB) of the Device ID is *ID2*, the middle byte is *ID1*, and the low byte (LSB) is *ID0*.

Global Line External EEPROM Structure Overview

Location		**Comments**
0x0FF8	0xA2 01 AA BB CC FF FE 00	All-Link Database Record
0x0FF0		
0x0FD8		
……		
0x0300		Last Record, 416 total links allowed
0x02XX	N/A	Addressing below 0x0300 is ignored by database

AL /L Record Format

Global Line AL Record Format

Database entries with Record Control Bit 6: 0 = Responder and Group 1 will control the local load.

Linear ALL-Link Database (AL /L) Record Format		
Field	**Length (bytes)**	**Description**
Record Control	1	Record Control Flag Bits: Bit 7: 1 = Record is in use, 0 = Record is available Bit 6: 1 = Controller (Master) of Device ID, 0 = Responder to (Slave of) Device ID Bit 5: Not used Bit 4: Not used Bit 3: Not used Bit 2: Not used Bit 1: 1 = Record has been used before, 0 = 'High-water Mark' Bit 0: Not used
Group	1	ALL-Link Group Number this Device ID belongs to
ID	3	Device ID (ID2, ID1, ID0 in that order)
Data 1	1	Not used
Data 2	1	Not used
Data 3	1	Not used

To add a record to an AL /L, you search for an existing record that is marked available. (Available means the same as empty, unused or deleted.) If none is available, you create a new record at the end of the AL /L.

An unused record will have bit 7 of the *Record Control* byte set to zero. The last record in an AL /L will have bit 1 of the *Record Control* byte set to zero.

Overwriting an Empty AL /L Record

If you found an empty record, you simply overwrite it with your new record data.

Change bit 7 of the *Record Control* byte from zero to one to show that the record is now in use.

Set bit 6 of the *Record Control* byte to one if the device containing the AL /L is an INSTEON Controller of the INSTEON Responder Device whose *ID* is in the record. If instead the device containing the AL /L is an INSTEON Responder to the INSTEON Controller Device whose *ID* is in the record, then clear bit 6 of the *Record Control* byte to zero. In other words, within an AL /L, setting bit 6 means "I'm a Controller," and clearing bit 6 means "I'm a Responder."

Put the ALL-Link Group number in the *Group* field, and put the *Device ID* in the *ID* field. Finally, set the *Data 1*, *Data 2*, and *Data 3* fields appropriately for the *Record Class* you are storing.

Creating a New AL /L Record

To create a new record at the end of the AL /T, find the record with bit 1 of the *Record Control* byte set to zero, indicating that it is the last record in the AL /L. Flip that bit to one.