EDWARDS SIGNALING

Installation Instructions for 108 Series Chameleon Multi-Status Indicator

Description

The Edwards Chameleon Multi-Status Indicator is a UL and cUL listed, multi-color LED signaling appliance. The enclosure is Type 3R, 4X and IP65 rated.

The lights are available in 24V DC and 120V 50/60 Hz. They are available in either red, blue and amber or red, green and amber.

A pipe mount kit, Cat. No. 102PMF (sold separately) and one of three extension pipes (sold separately) allows the status indicator to be raised above the mounting surface for increased visibility.

The lights are designed such that any one or all three lights can be activated by either a PLC or contact closure. The first light activated will illuminate either steady or flashing (set by the internal jumper). If a second light is activated, the Chameleon cycles between the two colors. A third activation causes the Chameleon to cycle between all three colors: red, amber and green or red, amber and blue.

The Chameleon also features a multi-tone base module that allows the installer to select one of eight available tone options. The selected tone can be operated as a fourth signal or used in conjunction with any of the LED signals.

The Chameleon is also available with two shorter bases that are used when a lower profile is desired: one for surface mounting and one for pendant mounting. The shorter bases do not allow for use of a tone module.

An additional light module can be used on the Chameleon. For available lens modules and light sources, refer to Table 4.

PLC Compatibility

The electrical input characteristics for PLC compatible signals are listed in Table 2. Signals with these characteristics may be directly connected to PLC output cards that do not exceed these input characteristics.

Installation

Installation must be in accordance with the latest edition of the National Electrical Code and other governing standards and codes for standard installation.

⚠ WARNINGS

To prevent electrical shock, do not connect power until instructed to do so.

To prevent abrasion of wiring insulation, ensure that wire passage holes are adequately protected.

1. If using the 102PMF mounting kit, perform the following:

NOTE: All references below are to Figure 5.

   a. Using the supplied gasket (D) as a guide, mark the four mounting holes and the center clearance hole on an appropriate surface.

   b. Punch the four mounting holes. Punch the wiring clearance hole in the mounting surface to be sufficiently larger than that in the gasket to ensure the wiring insulation is protected from abrasion by the gasket (without interfering with the mounting screw holes), or provide other appropriate wire insulation abrasion protection as needed.

   c. Screw the pipe extension (purchased separately) into the mounting flange.

   d. Ground the flange by pulling the ground wire through the mounting surface clearance hole and center hole of the gasket. Connect earth ground to the bottom of the base mount flange using the ground screw (G) and wire retention terminal cup washer (H).

   e. Pull the remaining field wiring through center clearance hole of mounting surface, center hole of the gasket, pipe mount flange and extension pipe.

   f. Align the mounting gasket (D) and flange (A) on the panel. Secure using (4) #10-24 x 1" (25 mm) pan head screws (B), (4) external tooth #10 star washers (E) and (4) #10-24 hex nuts (F).

   g. Mount the base as instructed below.

2. If not using the 102PMF mounting kit, install base on 3/4" (19 mm) conduit (not supplied). Pull field wiring through conduit entrance hole.

3. If not using the 102PMF mounting kit, mount using the appropriate method below.

NOTE: For indoor applications, the base may be panel mounted or conduit mounted. For NEMA3R, 4X, and outdoor applications, it is recommended that either the 108IP or 108I series be used.

   a. **Cat. Series 108I** Install base on 3/4" (19 mm) conduit (not supplied). Pull field wiring through conduit entrance hole.

   b. **Cat. Series 108IP** Install base on 3/4" (19 mm) conduit (not supplied). Pull field wiring through conduit entrance hole.

   c. **Cat. Series 108ID** Using the supplied mounting gasket as a template, punch the four mounting holes. Punch the wiring clearance hole in the mounting surface to be sufficiently larger than that in the gasket to ensure the wiring insulation is protected from abrasion by the gasket (without interfering with the mounting screw holes), or provide other appropriate wire insulation abrasion protection as needed. Mount the base to the surface using the (2) screws (supplied).

4. Connect field wiring.

   a. **Cat. Series 108I** Connect field wiring to the terminal block as shown in Figure 1.

   Connect additional field wiring to the terminal block mounted on the signal assembly as shown in Figure 2.

NOTE: The tone module may be wired to sound independently or in conjunction with an LED signal.

   To sound tone module independently, connect to separate hot lead.

To sound tone module with a particular light source, connect horn hot terminal to selected light terminal on the terminal block.

b. **Cat. Series 108IP or Cat. Series 108ID**Using wire nuts, connect 18" (457 mm) wire leads to field wiring. The wire leads are marked as follows: Neutral, Red, Blue (for models with Red, Amber and Blue LEDs) or Green (for models with Red, Amber and Green LEDs), Amber, and 2nd Module.

5. If using a second module, install as follows (see Figure 4):

a. Loosen the captive screw in the cap and remove the cap from the unit.

b. Pull the captive key in the second lens module into the "out" position.

c. Place the second lens module on top of the first.

d. Push in the captive key to secure the lens module.

e. Insert the light source into board grooves at bottom of lens module, ensuring that the four prongs on the PC board are aligned with the plug located in the back of the lens assembly.

> ⚠ **WARNING**
>
> **To prevent leakage, ensure the magnifier ring on the lens cover and the magnifier ring on the lens module are aligned (Figure 4).**

NOTE: *When using LED light sources, ensure that the color of the LED light source and the lens assembly match.*

f. Place the lens assembly cover on the front of the lens module and secure using two captive screws.

g. Replace the cap on top and secure the cap with the captive screw.

6. If using the Cat. No. 108I, set the selected tone. See Table 3 and Figure 3.

7. Apply power to the unit and verify proper operation.

Maintenance

The lens surfaces should be periodically dusted and cleaned with a dry soft clean cloth to maintain optimum light visibility. If necessary, the outside of the lens may be cleaned with water and a mild detergent on a well rung-out, soft, clean cloth.

Table 1. Specifications

Catalog Number	Mounting	Voltage	Current	Peak Inrush Current	Repetitive Surge Current	Colors
108I-RGA-N5	Pipe Mount	120V 50/60 Hz	0.115 A*	30A @ 2 µs	0.45A @ 2 ms (120 Hz)	red, green, amber
108I-RBA-N5	Pipe Mount	120V 50/60 Hz	0.115 A*	30A @ 2 µs	0.45A @ 2 ms (120 Hz)	red, blue, amber
108I-RGA-G1	Pipe Mount	24V DC	0.105 A*	5A @ 1 ms	0.275A @ 2 ms (500-1 kHz)	red, green, amber
108I-RBA-G1	Pipe Mount	24V DC	0.105 A*	5A @ 1 ms	0.275A @ 2 ms (500-1 kHz)	red, blue, amber
108IP-RGA-N5	Pipe Mount (Short Base)	120V 50/60 Hz	0.045 A	13A @ 2 µs	0.10A @ 4 ms (60 Hz)	red, green, amber
108IP-RBA-N5	Pipe Mount (Short Base)	120V 50/60 Hz	0.045 A	13A @ 2 µs	0.10A @ 4 ms (60 Hz)	red, blue, amber
108IP-RGA-G1	Pipe Mount (Short Base)	24V DC	0.055 A	5A @ 1 ms	55 mA	red, green, amber
108IP-RBA-G1	Pipe Mount (Short Base)	24V DC	0.055 A	5A @ 1 ms	55 mA	red, blue, amber
108ID-RGA-N5	Direct Mount	120V 50/60 Hz	0.045 A	13A @ 2 µs	0.10A @ 4 ms (60 Hz)	red, green, amber
108ID-RBA-N5	Direct Mount	120V 50/60 Hz	0.045 A	13A @ 2 µs	0.10A @ 4 ms (60 Hz)	red, blue, amber
108ID-RGA-G1	Direct Mount	24V DC	0.055 A	5A @ 1 ms	55 mA	red, green, amber
108ID-RBA-G1	Direct Mount	24V DC	0.055 A	5A @ 1 ms	55 mA	red, blue, amber

*The current rating for the 108I series indicates an activated tone in the multi-tone module.
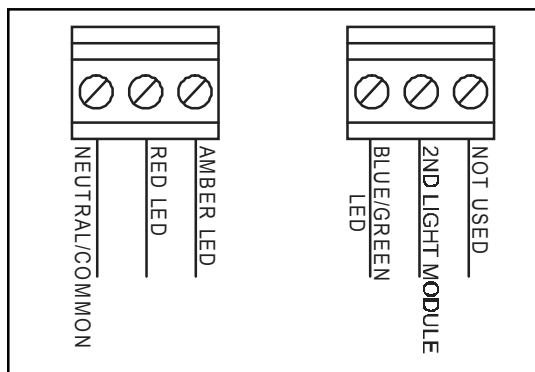

Figure 1. Wiring
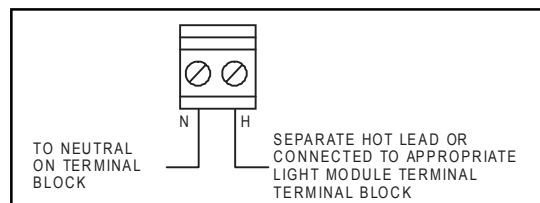
Figure 2. Wiring the Tone Module

Table 2. PLC Compatibility

Cat. No.	Operating Voltage	Max. off state leakage current mA	Continuous on current mA	Surge (inrush/duration) A/mSeconds**
108I-RBA-G1 108I-RGA-G1	24V DC	5	0.105	0.24/0.2
108IP-RBA-G1 108IP-RGA-G1 108ID-RBA-G1 108ID-RGA-G1	24V DC	5	55	0.070/8
108I-RBA-N5 108I-RGA-N5	120V AC	5	0.115	0.35/0.2
108IP-RBA-N5 108IP-RGA-N5 108ID-RBA-N5 108ID-RGA-N5	120V AC	5	45	0.100/8

*All AC volts at 60 Hz   ** Amps/milliseconds

NOTE: *The values shown here are for units with only one Chameleon LED module. For information on units with an additional light module, please contact Applications Engineering.*

Table 3. Switch Settings

	Switch Settings*		
Tone	1	2	3
Stutter beep	OFF	OFF	OFF
Hi / Lo	ON	OFF	OFF
3 Pulse Horn	OFF	ON	OFF
Continuous	OFF	OFF	ON
Yeow	ON	ON	OFF
Fast Whoop	ON	OFF	ON
Rapid Siren	OFF	ON	ON
Beep	ON	ON	ON

*ON is in the "UP" position (see Figure 4).

Figure 3. Tone Module PC Board (120V version shown)

Table 4. Accessories and Replacement Parts

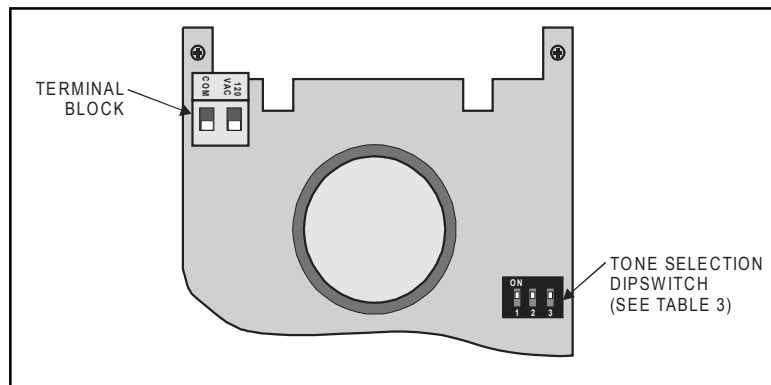|	Catalog Number	Voltage	Manufacturers Lamp Ratings	Replacement Lamp	Lamp Life (hours) Calculated#	Projected##
Pipe Mount Flange	102PMF	N/A	N/A	N/A	N/A	
Extension Pipes	102MP-4	N/A	N/A	N/A	N/A	
	102MP-10	N/A	N/A	N/A	N/A	
	102MP-15	N/A	N/A	N/A	N/A	
Add-On Lens Modules	102LM-*	N/A	N/A	N/A	N/A	
Steady-On Halogen	102LS-SINH-G1	24V DC	9 Watts	50LMP-9WH or Ind. Trade 303***	12,000	--
Steady-On Halogen	102LS-SINH-N5	120V AC	12 Watts	50LMP-12WH	20,000	--
Steady-On Incandescent	102LS-SIN-G1	24V DC	10 Watts	Ind. Trade 303	10,000	--
Steady-On Incandenscent	102LS-SIN-N5	120V AC	10 Watts	50LMP-10W	2,500	--
Flashing Halogen	102LS-FINH-G1	24V DC	9 Watts	50LMP-9WH or Ind. Trade 303***	12,000	15,000
Flashing Halogen	102LS-FINH-N5	120V AC	12 Watts	50LMP-12WH	20,000	25,000
Flashing Incandescent	102LS-FIN-G1	24V DC	10 Watts	Ind. Trade 303	10,000	12,500
Flashing Incandescent	102LS-FIN-N5	120V AC	10 Watts	50LMP-10W	2,500	3,000
Strobe	102LS-ST-G1	24V DC	3 Joule Strobe	--	3,000###	--
Strobe	102LS-ST-N5	120V AC	3 Joule Strobe	--	3,000###	--
Steady-On LED	102LS-SLED**-G1	24V DC	--	N/A	100,000	--
Steady-On LED	102LS-SLED**-N5	120V AC	--	N/A	100,000	--
Flashing LED	102LS-FLED**-G1	24V DC	--	N/A	100,000	--
Flashing LED	102LS-FLED**-N5	120V AC	--	N/A	100,000	--

*Signifies lens module color (A - amber, B - blue, C - clear, G - green, R - red)

**Signifies lens and LED module color (A - amber, B - blue, G - green, R - red) *NOTE: LED light sources must be used with the coooresponding color lens module (e.g., a blue LED light source, 102LS-SLEDB-G1, must be used with a blue lens, 102LM-B).*

***A non-halogen lamp, as listed, may be used in place of the halogen lamp.

#At nominal operating voltage.

##Projected lamp life based on manufacturer's calculated lamp life @ 65 fpm and 50% duty cycle.

###Strobe tube life @ operating power to 75% efficiency.
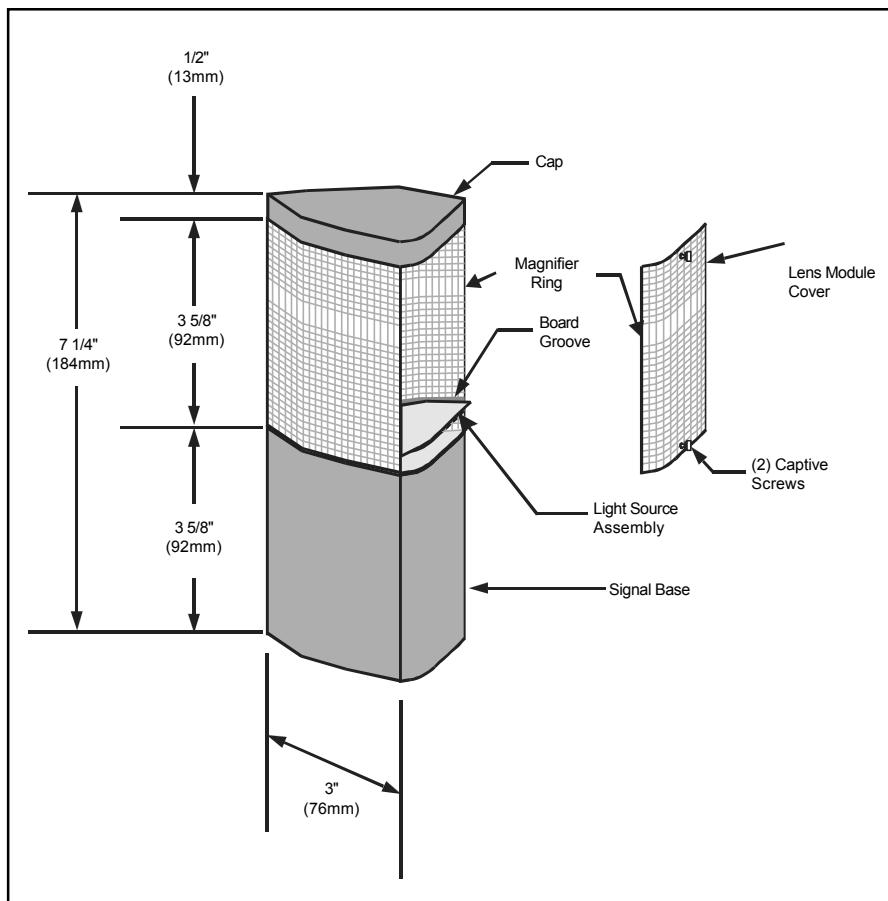
Figure 4. Dimensional Drawing (108I Series shown)

C
(4) o-rings

B
(4) #10-24 x 1" (25 mm)
pan head screws

A
Cat. No. 102PMF
Pipe mount flange

H
Wire retention
terminal cup washer

G
#10-16 x 3/8"
Pan head, thread forming,
ground ($\perp$) screw

D
Mounting gasket

E
External tooth
#10 Star washer

F
#10-24 Hex nut
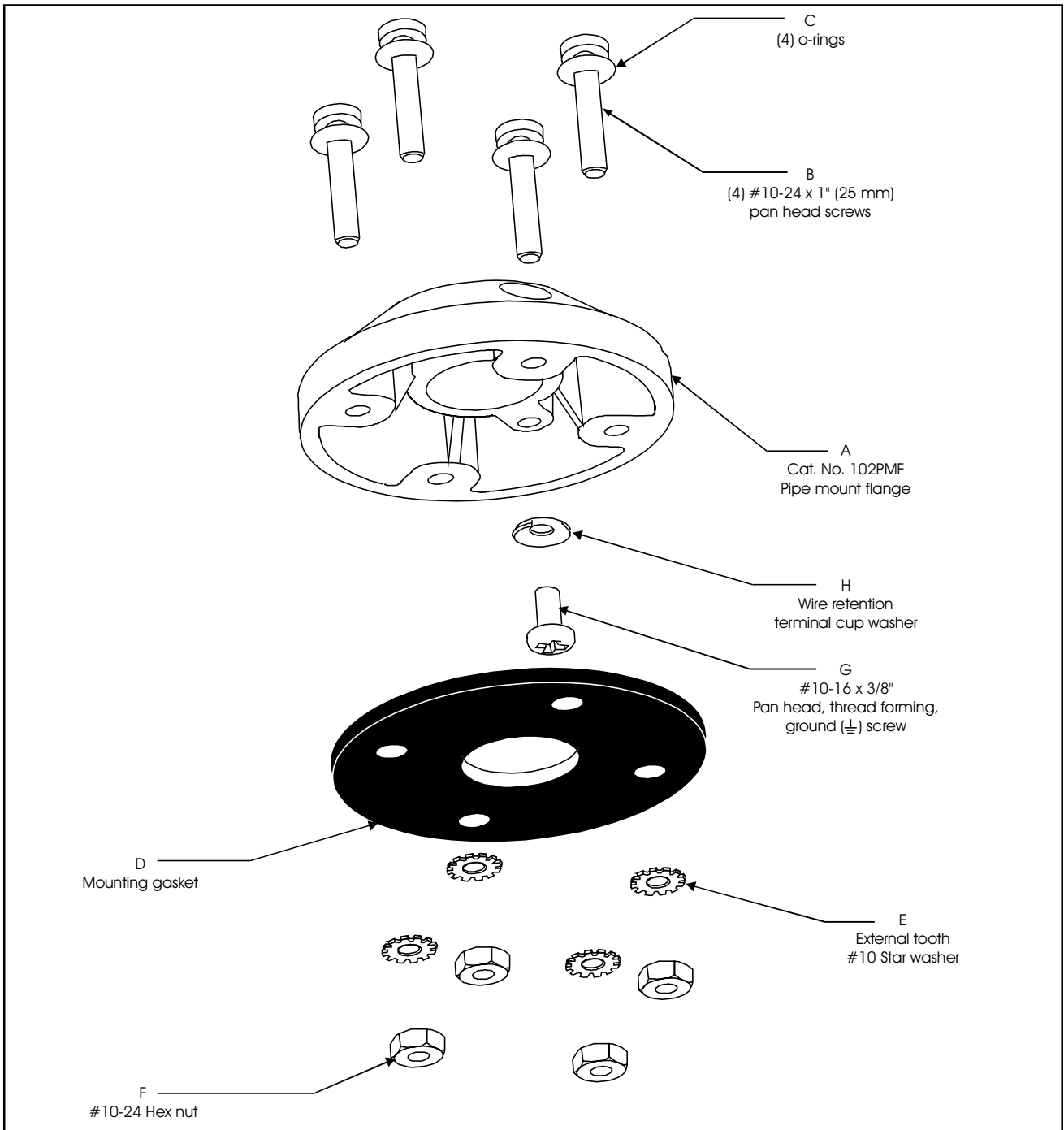
Figure 5. Optional 102PMF Mounting Kit Assembly

EDWARDS SIGNALING

Installation Instructions for 108 Series Chameleon DeviceNet Status Indicating Lighting System

Description

The Edwards Chameleon DeviceNet Status Indicating Lighting System is a unique audible-visual signaling device that combines three LED visual and eight audible signals in one compact housing.

The Chameleon also features a multi-tone base module that contains eight tone options. The selected tones can be operated as independent signals or used in conjunction with any of the LED signals.

All components of the Lighting System are UL listed subassemblies and cUL Listed. The enclosures are NEMA 3R, NEMA 4X and IP65 Rated. The unit has been tested by ODVA's authorized independent test lab and found to comply with ODVA conformance test software.

The lens module contains a removable cover to allow for easy relamping. The lens module cover features a molded-in gasket for weather tight reliability.

See Tables 1 and 2 for specification information.

Device Profile

Revision	1.00
Firmware Revision	1.00

The DeviceNet interface is in the unit's base which interfaces between the network and the modules.

The Chameleon DeviceNet Status Indicator is a slave device. It is a general purpose status indicator designed to indicate the status of a machine or process.

Power to drive the LED light sources may be taken locally or from the DeviceNet Network. A standard open style 2 pin connector is used to connect 24V DC @ 0.105A (max) or 120V AC @ 0.12A (max).

The unisolated physical layer contains DeviceNet required mis-wiring protection circuitry. A standard open style (un-sealed) 5 pin connector is used to connect the Status Indicator to the DeviceNet bus. The current draw from the bus is 0.12A.

The Chameleon DeviceNet Status Indicator contains a preprogrammed microcontroller which implements the Group 2 pre-defined Master/Slave Connection Set. This allows for one Explicit Messaging Connection and one Poll Connection. The objects (classes) supported are described in the next section. The Chameleon Status Indicator resets automatically when DeviceNet power is applied.

1.0 Object Model

1.1 Object present in the base:

OBJECT	Optional/Required	# of Instances
Identity (1)	Required	1
Message Router (2)	Required	1
Devicenet (3)	Required	1
Assembly (4)	Required	1
Connection (5)	Required	1

1.2 Object that Effect Behavior:

OBJECT	Effect on Behavior
Identity (1)	Supports the reset service
Message Router (2)	No effect
Devicenet (3)	Configures port attributes
Assembly (4)	I/O assembly for lamps
Connection (5)	Establishes the number of connections

1.3 Object Interfaces:

OBJECT	Effect on Behavior
Identity (1)	Message router
Message Router (2)	Explicit message connection instance
Devicenet (3)	Message router
Assembly (4)	I/O connection or message router
Connection (5)	Message router

1.4 Identification of I/O Assembly Interfaces:

Instance Number	Type	Name
1	Input/Output	LEDs ON/OFF, LED diagnostics, and sounder control

1.5 Format of I/O Assembly data Attribute:

Input to the DeviceNet bus as a response to the poll command from master node.

Data Byte 0 value indicates the LEDs are OK or are burned out.

Data Byte 1 value indicates the LEDs were on or off when last poll command was received.

Data Byte 2 value indicates the current sounder module control value.

BYTE	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	LED 3 1 = REP 0 = OK	LED 2 1 = REP 0 = OK	LED 1 1 = REP 0 = OK
1	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	LED 3 1 = ON 0 = OFF	LED 2 1 = ON 0 = OFF	LED 1 1 = ON 0 = OFF
2	0	0	0	0	Sounder 1 = ON 0 = OFF	Tone MSB	Tone	Tone LSB

Output to the base with the poll command from master node.

Data Byte 0 value indicates the LEDs to be turned ON or OFF.

Data Byte 1 value indicates the ON LEDs to be Steady ON or Flashing and the Flashing rate (45, 60 or 80 flashes per minute) selected.

Data Byte 2 value indicates the sounder to be turned ON or OFF and the tone to be chosen.

BYTE	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	LED 3 1 = ON 0 = OFF	LED 2 1 = ON 0 = OFF	LED 1 1 = ON 0 = OFF
1	0	0	1 45 FPM	DON'T CARE	DON'T CARE	LED 3 1 = FLSH 0 = STDY	LED 2 1 = FLSH 0 = STDY	LED 1 1 = FLSH 0 = STDY
1	0	1 60 FPM	0	DON'T CARE	DON'T CARE	LED 3 1 = FLSH 0 = STDY	LED 2 1 = FLSH 0 = STDY	LED 1 1 = FLSH 0 = STDY
1	1 80 FPM	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	LED 3 1 = FLSH 0 = STDY	LED 2 1 = FLSH 0 = STDY	LED 1 1 = FLSH 0 = STDY
1	0 80 FPM DEFLT	0 80 FPM DEFLT	0 80 FPM DEFLT	DON'T CARE	DON'T CARE	LED 3 1 = FLSH 0 = STDY	LED 2 1 = FLSH 0 = STDY	LED 1 1 = FLSH 0 = STDY
2	0	0	0	0	Sounder 1 = ON 0 = OFF	Tone MSB	Tone	Tone LSB

2.0   Standard Objects.

2.1   Identity Object (Class ID = 1).

There is a single instance of the identity object for the Chameleon DeviceNet Status Indicator. No class attributes are supported. All of the instance attributes are contained in rom and are gettable but not settable. The table below shows the values.

ATTRIBUTE ID	ACCESS RULES	NAME	DATA TYPE	VALUE
1	Get	Vendor Code	Uint	0x201 (513)
2	Get	Product Type	Uint	0x0000
3	Get	Product Code	Uint	0x0001
4	Get	Revision	Word	01.01
5	Get	Status	UDINT	0x0000
6	Get	Serial #	Uint	UNIQUE SERIAL #
7	Get	Product Name	STRUCT	102

Identity Object Services:

SERVICE	SERVICE CODE	PARAMETERS
Get Attribute Single	0x0E	Attribute ID
Reset	0x05	0, 1

2.2   Message Router Object (Class ID = 2).

There is no externally visible interface to the Message Router Object.

2.3   DeviceNet Object (Class ID = 3).

There is a single instance of the DeviceNet Object for the Chameleon DeviceNet Status Indicator.

DeviceNet Object Class Attributes:

ATTRIBUTE ID	ACCESS RULES	NAME	DATA TYPE	VALUE
1	Get	Revision	Uint	0x0002

DeviceNet Object Class Services:

SERVICE	SERVICE CODE	PARAMETERS
Get Attribute Single	0x0E	Attribute ID

DeviceNet Object Instance Attributes:

ATTRIBUTE ID	ACCESS RULES	NAME	DATA TYPE	VALUE
1	Get	Macid	Uint	Dipswitch
2	Get	Baud rate	USINT	Dipswitch
3	Get	BOI	BOOL	0x01 Auto-Reset 0x00 Hold
4	Get/Set	Bus off counter	USINT	0x00 (Set) Value (Get)
5	Get	Allocation info	STRUCT	Allocate Serv

DeviceNet Object Instance Services:

SERVICE	SERVICE CODE	PARAMETERS
Get Attribute Single	0x0E	Attribute ID
Set Attribute Single	0x10	Attribute ID
Allocate	0x4B	Allocation Choice Master MACID
Release	0x4C	Release Choice

2.4   Assembly Object (Class ID = 4)

There is a single instance of the Assembly Object for the Chameleon DeviceNet Status Indicator. No class attributes or services are supported for the Assembly Class.

Assembly Object Instance Attributes:

ATTR ID	ACCESS RULES	NAME	DATA TYPE	VALUE
3	Get/Set	Data	Struct	See Sect 1.5

Assembly Object Instance Services:

SERVICE	SERVICE CODE	PARAMETERS
Get Attribute Single	0x0E	Attribute ID
Set Attribute Single	0x10	Attribute ID

2.5   Connection Object (Class ID = 5).

There are two instances of the Connection object. Instance #1 is assigned to the Explicit Messaging Connection. Instance #2 is assigned to the Polled I/O Connection. The following table shows the attributes and the pre-defined values where applicable. No class attributes are supported.

Connection Object - Explicit Message Connection (Instance #1)

ATTR ID	ACCESS RULES	NAME	DATA TYPE	VALUE
1	Get	State	USINT	0x03
2	Get	Instance type	USINT	0x00
3	Get	Xport class trigger	USINT	0x83
4	Get	Produced CONN. ID	UINT	0x5FB for MACID 63
5	Get	Consumed CONN. ID	UINT	0x5FC for MACID 63
6	Get	Initial COMM. Characteristics	UINT	0x21
7	Get	Produced CONN. size	UINT	0x0007
8	Get	Consumed CONN. size	UINT	0x0007
9	Get/Set	Expected packet rate	UINT	Application dependent
10	N/A	N/A	N/A	Not used
11	N/A	N/A	N/A	Not used
12	Get/Set	Watchdog timeout action	USINT	0x01 Default
13	Get	Produced path length	UINT	0x0000
14	Get	Produced path	ARRAY OF USINT	<NULL>
15	Get	Consumed path length	UINT	0x0000
16	Get	Consumed path	ARRAY of USINT	<NULL>

Connection Object - Poll I/O Message Connection (Instance #2)

ATTR ID	ACCESS RULES	NAME	DATA TYPE	VALUE
1	Get	State	USINT	State Dependent
2	Get	Instance type	USINT	0x01
3	Get	Xport class trigger	USINT	0x82
4	Get	Produced CONN. ID	UINT	0x3FF for MACID 63
5	Get	Consumed CONN. ID	UINT	0x5FD for MACID 63
6	Get	Initial COMM. Characteristics	UINT	0x01
7	Get/Set	Produced CONN. size	UINT	0x03
8	Get/Set	Consumed CONN. size	UINT	0x03
9	Get/Set	Expected packet rate	UINT	Application dependent
10	N/A	N/A	N/A	Not used
11	N/A	N/A	N/A	Not used
12	Get/Set	Watchdog timeout action	USINT	(0x00 Default) 0, 1, 2
13	Get	Produced path length	UINT	0x0006
14	Get	Produced path	ARRAY OF USINT	20.04.24.01.30.03
15	Get	Consumed path length	UINT	0x0006
16	Get	Consumed path	ARRAY of USINT	20.04.24.01.30.03

Connection Object Services:

SERVICE	SERVICE CODE	PARAMETERS
Get Attribute Single	0x0E	Attribute ID
Set Attribute Single	0x10	Attribute ID

Installation

Safety Message to Installers, Users, and Maintenance Personnel

The Chameleon DeviceNet Status Indicator must be installed in accordance with the latest edition of the National Electrical Code and/or other applicable local regulations, by a trained and qualified electrician. The selection of the mounting location, its controls and the routing of the wiring is to be accomplished under the direction of the facilities engineer.

NOTE: *For NEMA 4X applications, it is recommended that the unit be conduit mounted vertically facing up.*

1. If not using the optional 102PMF mounting kit, mount the base by installing on 3/4" (19 mm) conduit (not supplied). Pull field wiring (if required) and DeviceNet wiring through the conduit entrance hole.

1. If using the 102PMF mounting kit, perform the following:

NOTE: All references below are to Figure 1.

   a. Using the supplied gasket (D) as a guide, mark the four mounting holes and the center clearance hole on an appropriate surface.

   b. Punch the four mounting holes. Punch the wiring clearance hole in the mounting surface to be sufficiently larger than that in the gasket to ensure the wiring insulation is protected from abrasion by the gasket (without interfering with the mounting screw holes), or provide other appropriate wire insulation abrasion protection as needed.

   c. Screw the pipe extension (purchased separately) into the mounting flange.

   d. Ground the flange by pulling the ground wire through the mounting surface clearance hole and center hole of the gasket. Connect earth ground to the bottom of the base mount flange using the ground screw (G) and wire retention terminal cup washer (H).

   e. Pull the remaining field wiring through center clearance hole of mounting surface, center hole of the gasket, pipe mount flange and extension pipe.

   f. Align the mounting gasket (D) and flange (A) on the panel. Secure using (4) #10-24 x 1" (25 mm) pan head screws (B), (4) external tooth #10 star washers (E) and (4) #10-24 hex nuts (F).

   g. Mount the base as instructed below.

Network & Field Connections

> ⚠ **WARNING**
>
> **To avoid electrical shock hazards, do not connect wires when power is applied.**

1. Make DeviceNet connections to the 5 position female terminal block plug as indicated in the below table. The 5 DeviceNet bus terminals are silkscreened near the terminals on the printed circuit board. Make connections as follows:

Pin 5	V +	Red Wire
Pin 4	CAN_H	White Wire
Pin 3	Drain	Bare Wire
Pin 2	CAN_L	Blue Wire
Pin 1	V -	Black Wire

C
(4) o-rings

B
(4) #10-24 x 1" (25 mm)
pan head screws

A
Cat. No. 102PMF
Pipe mount flange

H
Wire retention
terminal cup washer

G
#10-16 x 3/8"
Pan head, thread forming,
ground (⏚) screw

D
Mounting gasket

E
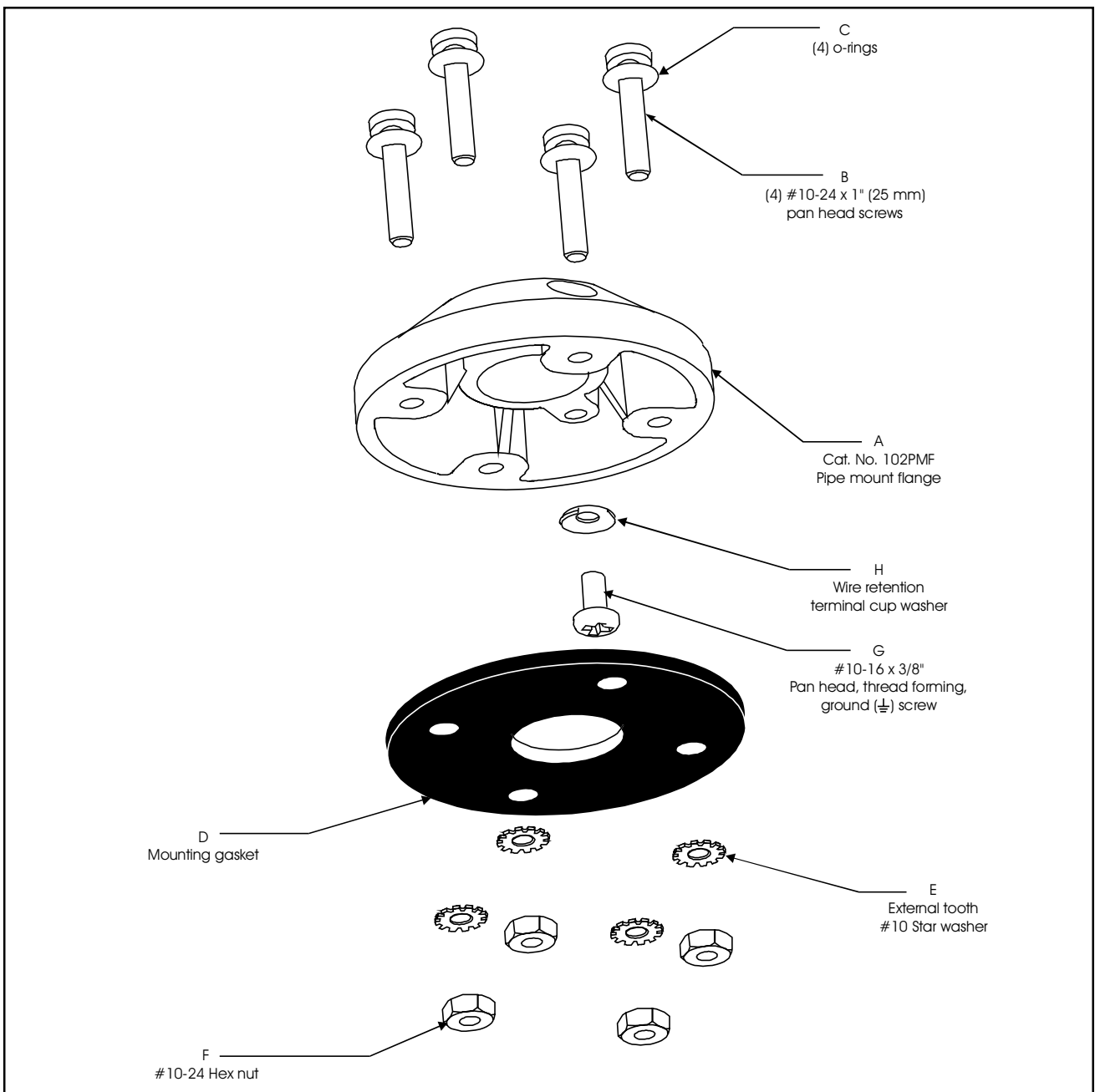External tooth
#10 Star washer

F
#10-24 Hex nut

Figure 1. Optional 102PMF Mounting Kit Assembly

2. A two (2) position screw terminal is provided to connect separate 24V DC light source operating power to the Chameleon DeviceNet Status Indicator. The terminals for the 24V DC unit are labeled as "+" and "-". Make connections as follows:

Pin 1 (+)	+ 24V DC	Red Wire
Pin 2 (-)	- 24V DC	Black Wire

3. If it is desired to power the light sources from DeviceNet power, jumper (V+) and (V-) on the 5 position DeviceNet terminal block to (+) and (-) respectively on the 2 position screw terminal.

Set DIPSWITCH S1 for the BAUD RATE and MAC ID required as follows:

Note the legend on the dipswitch for the sense of 0 and 1 (0 = OFF and 1 = ON)

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
BAUD RATE - 125 Kbps	0	0						
BAUD RATE - 250 Kbps	0	1						
BAUD RATE - 500 Kbps	1	0						
BAUD RATE - 125 Kbps	1	1						
MAC ID 0			0	0	0	0	0	0
MAC ID 1			0	0	0	0	0	1
MAC ID 2			0	0	0	0	1	0
MAC ID 3			0	0	0	0	1	1
MAC ID 4			0	0	0	1	0	0
MAC ID 5			0	0	0	1	0	1
MAC ID 6			0	0	0	1	1	0
MAC ID 7			0	0	0	1	1	1
MAC ID 8			0	0	1	0	0	0
MAC ID 9			0	0	1	0	0	1
MAC ID 10 (0x0A)			0	0	1	0	1	0
MAC ID 11 (0x0B)			0	0	1	0	1	1
MAC ID 12 (0x0C)			0	0	1	1	0	0
MAC ID 13 (0x0D)			0	0	1	1	0	1
MAC ID 14 (0x0E)			0	0	1	1	1	0
MAC ID 15 (0x0F)			0	0	1	1	1	1
MAC ID 16 (0x10)			0	1	0	0	0	0
MAC ID 17 (0x11)			0	1	0	0	0	1
MAC ID 18 (0x12)			0	1	0	0	1	0
MAC ID 19 (0x13)			0	1	0	0	1	1
MAC ID 20 (0x14)			0	1	0	1	0	0
MAC ID 21 (0x15)			0	1	0	1	0	1
MAC ID 22 (0x16)			0	1	0	1	1	0
MAC ID 23 (0x17)			0	1	0	1	1	1
MAC ID 24 (0x18)			0	1	1	0	0	0
MAC ID 25 (0x19)			0	1	1	0	0	1
MAC ID 26 (0x1A)			0	1	1	0	1	0
MAC ID 27 (0x1B)			0	1	1	0	1	1
MAC ID 28 (0x1C)			0	1	1	1	0	0
MAC ID 29 (0x1D)			0	1	1	1	0	1
MAC ID 30 (0x1E)			0	1	1	1	1	0

	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
MAC ID 31 (0x1F)			0	1	1	1	1	1
MAC ID 32 (0x20)			1	0	0	0	0	0
MAC ID 33 (0x21)			1	0	0	0	0	1
MAC ID 34 (0x22)			1	0	0	0	1	0
MAC ID 35 (0x23)			1	0	0	0	1	1
MAC ID 36 (0x24)			1	0	0	1	0	0
MAC ID 37 (0x25)			1	0	0	1	0	1
MAC ID 38 (0x26)			1	0	0	1	1	0
MAC ID 39 (0x27)			1	0	0	1	1	1
MAC ID 40 (0x28)			1	0	1	0	0	0
MAC ID 41 (0x29)			1	0	1	0	0	1
MAC ID 42 (0x2A)			1	0	1	0	1	0
MAC ID 43 (0x2B)			1	0	1	0	1	1
MAC ID 44 (0x2C)			1	0	1	1	0	0
MAC ID 45 (0x2D)			1	0	1	1	0	1
MAC ID 46 (0x2E)			1	0	1	1	1	0
MAC ID 47 (0x2F)			1	0	1	1	1	1
MAC ID 48 (0x30)			1	1	0	0	0	0
MAC ID 49 (0x31)			1	1	0	0	0	1
MAC ID 50 (0x32)			1	1	0	0	1	0
MAC ID 51 (0x33)			1	1	0	0	1	1
MAC ID 52 (0x34)			1	1	0	1	0	0
MAC ID 53 (0x35)			1	1	0	1	0	1
MAC ID 54 (0x36)			1	1	0	1	1	0
MAC ID 55 (0x37)			1	1	0	1	1	1
MAC ID 56 (0x38)			1	1	1	0	0	0
MAC ID 57 (0x39)			1	1	1	0	0	1
MAC ID 58 (0x3A)			1	1	1	0	1	0
MAC ID 59 (0x3B)			1	1	1	0	1	1
MAC ID 60 (0x3C)			1	1	1	1	0	0
MAC ID 61 (0x3D)			1	1	1	1	0	1
MAC ID 62 (0x3E)			1	1	1	1	1	0
MAC ID 63 (0x3F)			1	1	1	1	1	1

4. Connect the five position female connector on the tone module to the upper set of male pins in the Chameleon DeviceNet Status Indicator. Set the selected tone in accordance with the table below. Set the third Byte (Data Byte 2) in accordance with the table below in order to access the required tone. "X" is the "Don't Care" State.
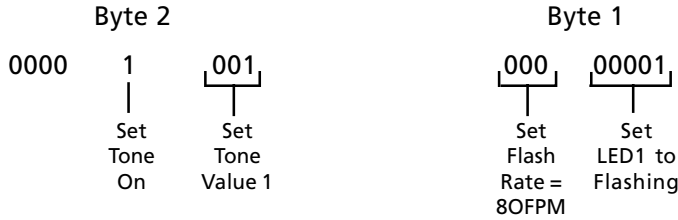
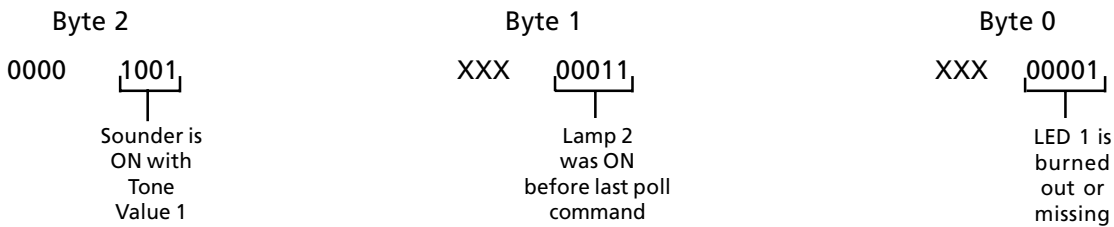|	Switch Settings*			
Tone	**Bit3**	**Bit2**	**Bit1**	**Bit0**
Tone Off	0	X	X	X
Stutter Beep	1	0	0	0
Continuous	1	0	0	1
3 Pulse Horn	1	0	1	0
Rapid Siren	1	0	1	1
Hi/Lo	1	1	0	0
Fast Whoop	1	1	0	1
Yeow	1	1	1	0
Beep	1	1	1	1

*1 is ON. 0 is OFF.

5. Install the front cover or the optional multi-tone module by tightening the two captive front screws.

6. Test the Chameleon DeviceNet Status Indicator to ensure that it operates as intended.

    To test the device for functionality the unit must be connected to a DeviceNet network via the five (5) pin connector. Turn on the network power supply and local power (if so configured) for the lamps. All lamps will flash instantaneously (some lamps may not be visible) as the unit checks for proper lamp operation. The value of the data byte in the master poll will be displayed on the lamps until it is changed by subsequent poll command. The pre-defined poll connection has consume size of three (3) bytes, and a produce size of three (3) bytes. When all the connections are released the lamps will display the last poll command data before release of the connection.

7. The following is an Output Data Byte example

<table>
<tr><td colspan="3">Byte 2</td><td colspan="2">Byte 1</td></tr>
<tr><td>0000</td><td>1</td><td>001</td><td>000</td><td>00001</td></tr>
<tr><td></td><td>Set
Tone
On</td><td>Set
Tone
Value 1</td><td>Set
Flash
Rate =
8OFPM</td><td>Set
LED1 to
Flashing</td></tr>
</table>

8. The following is an Input Data Byte example:

<table>
<tr><td colspan="2">Byte 2</td><td colspan="2">Byte 1</td><td colspan="2">Byte 0</td></tr>
<tr><td>0000</td><td>1001</td><td>XXX</td><td>00011</td><td>XXX</td><td>00001</td></tr>
<tr><td></td><td>Sounder is
ON with
Tone
Value 1</td><td></td><td>Lamp 2
was ON
before last poll
command</td><td></td><td>LED 1 is
burned
out or
missing</td></tr>
</table>

Maintenance

The lens surfaces should be periodically dusted and cleaned with a dry soft clean cloth to maintain optimum light visibility. If necessary, the outside of the lens may be cleaned with water and a mild detergent on a well rung out soft clean cloth.

Table 1. Chameleon DeviceNet Status Indicator Specifications

Catalog No.	Electrical Ratings	Lamp Life (Hours)
108-DN-RGA-G1 108-DN-RBA-G1	24V DC, 0.105 A	100,000
108-DN-RGA-N5 108-DN-RBA-N5	120V AC, 0.12A	100,000

Table 2. Pertinent DeviceNet Specifications

Operating DeviceNet Bus Current	0.12A
Current Draw supplied by separate power supply (per Light Module)	DC: 0.062 to 0.320A AC: 0.022 to 0.120A
In-Rush Current supplied by separate power supply (per Light Module)	DC: 1.2A AC: 0.5A
Flash Rate (selectable via second data byte of POLL command)	45, 60 or 80 fpm
Operating Temperature	32F to 158F (0C to 70C)