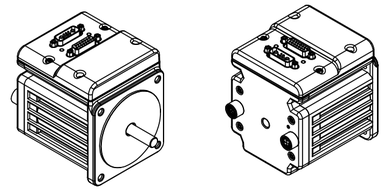
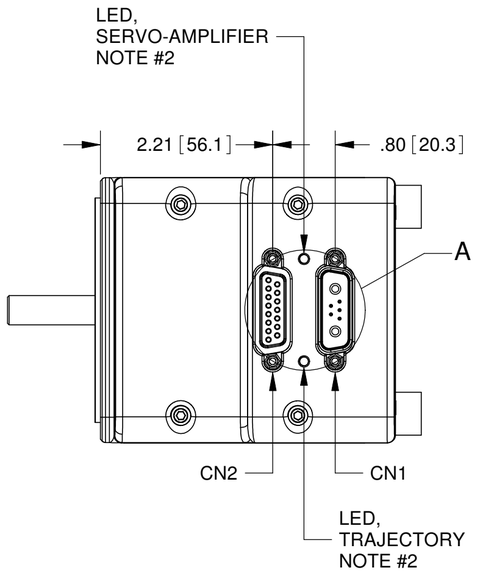
REV.	DESCRIPTION	ZONE	ECO	DATE	APPROVED
B	PRELIMINARY RELEASE, ADDED PRAT NUMBER FOR SHUNT OPTION			10/12/2010	M. TRAN

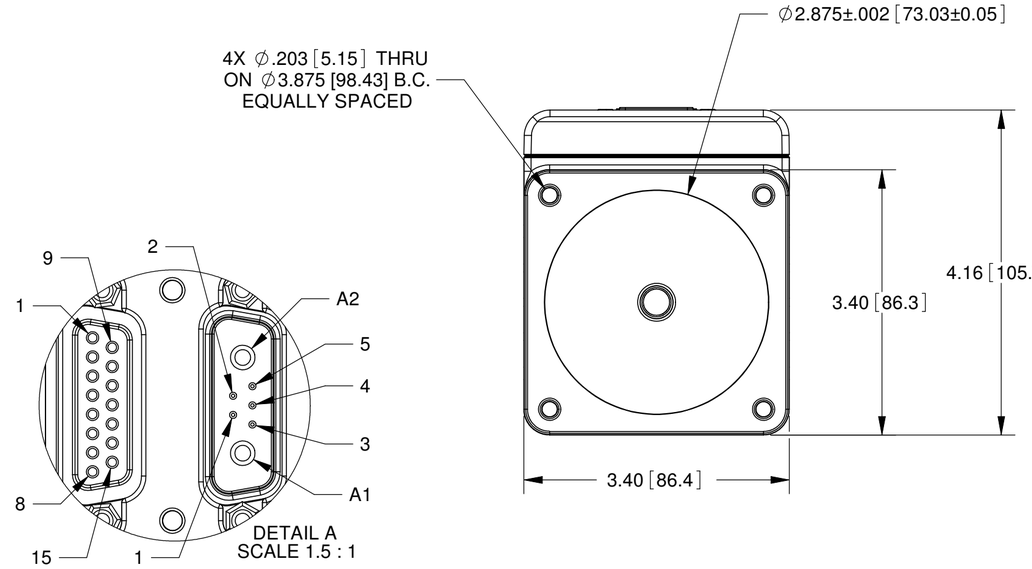
NOTES:
1. DRAWING APLLIES TO THE FOLLOWING SMARTMOTOR WITH PART NUMBERS:
   SM34165D-C-AD1 SM34165D-DE-C-AD1
   SM34165D-SH-C-AD1 SM34165D-DESH-C-AD1
2. LED, SERVO-AMPLIFIER:
   - CLEAR = CONTROLLER POWER NOT AVAILABLE
   - RED = FAULT
   - FLASH GREEN = DRIVE (AMPLIFIER) IS OFF
   - GREEN = DRIVE (AMPLIFIER) IS ON

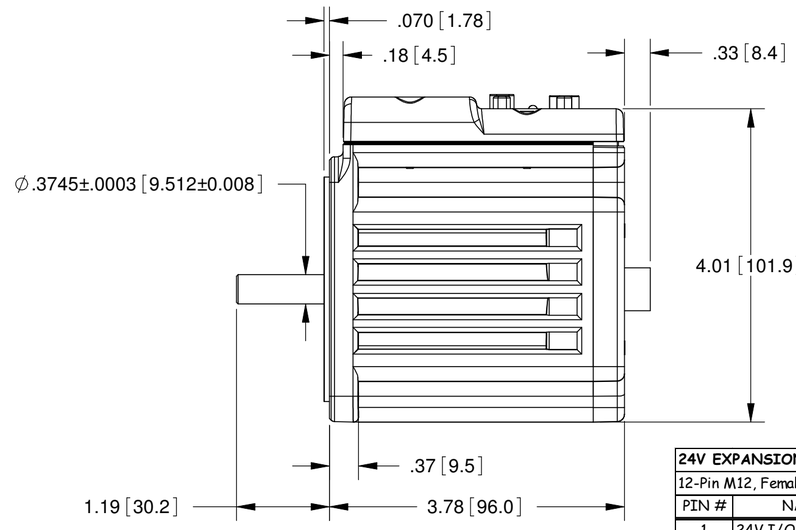
   LED, TRAJECTORY
   - CLEAR = NOT IN CONTROLLED TRAJECTORY (DEFAULT STATE)
   - GREEN = IN CONTROLLED TRAJECTORY (CLOSE LOOP MOTION)
3. CANopen ERROR LED (RED)
   - CLEAR = NO ERROR
   - SINGLE FLASH = WARNING, COMMUNICATION ERROR COUNT LIMIT REACHED
   - DOUBLE FLASH = GUARD OR HEART BEAT ERROR

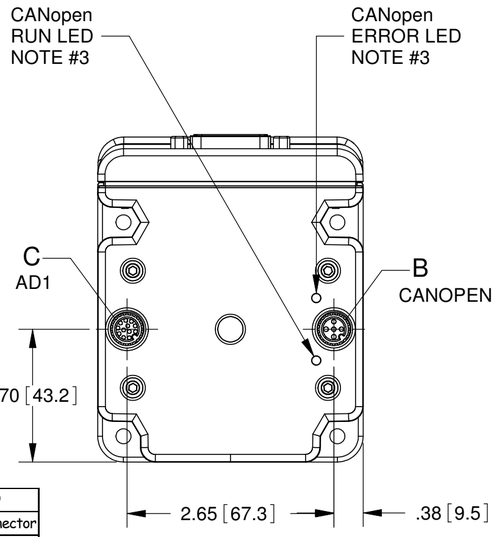
   CANopen RUN LED (GREEN)
   - SINGLE FLASH = DEVICE IS IN STOPPED STATE
   - BLINKING = PREOPERATIONAL STATE
   - SOLID = OPERATIONAL STATE
4. FOR -DE OPTION, DRIVE POWER AND CONTROLLER POWER ARE ON SEPARATE PINS. MUST PROVIDE POWER TO CONTROLLER AND DRIVE POWER TO OPERATE. SEE TABLE CN2 BELOW FOR PIN ASSIGNMENT.
5. DIMENSIONS IN [ ] ARE mm.
6. RECOMMENDED BOLTING SCREW SIZE TO BE 10-32 OR M5, SOCKET CAP.





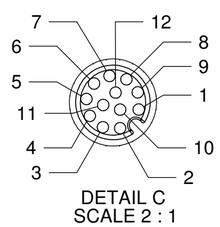




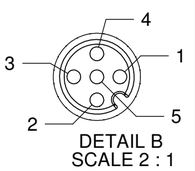


CN2 : 15PIN D-SUB FEMALE CONNECTOR					
PIN #	NAME	FUNCTIONS			
		Default Function	Secondary Function	Digital I/O	Analog Input
1	I/O A	External Encoder A Input	Step Input	5V TTL	0 to 5V
2	I/O B	External Encoder B Input	Direction Input	5V TTL	0 to 5V
3	I/O C	Positive Limit Input		5V TTL	0 to 5V
4	I/O D	Negative Limit Input		5V TTL	0 to 5V
5	I/O E		RS485 A (Pos)	5V TTL	0 to 5V
6	I/O F		RS485 B (Neg)	5V TTL	0 to 5V
7	I/O G	G-Synchronization	RS485-ISO Adopter Data	5V TTL	0 to 5V
8	ENC A OUT	Encoder A Output			
9	ENC B OUT	Encoder B Output			
10	RS232 Tx	RS232 Transmit			
11	RS232 Rx	RS232 Receive			
12	+5Vdc OUT	+5Vdc Supply Out			
13	GND	Signal GND			
14	POWER GND	POWER GND	For -DE Option, Pin 15 is Contorl power (20V to 48V) and		
15	POWER	POWER	Pin 14 is PWR GND. ^PIN 15 is not connected to A1.		

CN1 : 7PIN COMBO D-Sub Male Connector			
PIN #	NAME	FUNCTIONS	Ties to CN2, PIN #
1	I/O G	G-Synchronization	7
2	+5V dc OUT	+5Vdc Output	12
3	RS232 Tx	RS232 Transmit	10
4	RS232 Rx	RS232 Received	11
5	GND	Signal GND	13
A1	DRIVE PWR	Dirve Power (20 - 48Vdc)	15^
A2	POWER GND	POWER GND	14



24V EXPANSION I/O	
12-Pin M12, Female connector	
PIN #	NAME
1	24V I/O #1
2	24V I/O #2
3	24V I/O #3
4	24V I/O #4
5	24V I/O #5
6	24V I/O #6
7	24V I/O #7
8	24V I/O #8
9	24V I/O #9
10	24V I/O #10
11	24V PWR IN
12	GND (I/O)



CANopen	
5-Pin M12, Female connector	
PIN #	NAME
1	NC
2	NC
3	GND CAN
4	CAN H
5	CAN L

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MATERIAL	FINISH	DRAWN	DATE
ALUMINMUM HOUSING	BLACK ANODIZE HOUSING	M. TRAN	10/11/2010
		ENGR	DATE

INCH

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE INCHES AND TOLERANCES ARE:
DECIMALS: .XXX ± .010, .XX ± .04
ANGLES: .XX ± 0.25°, .X ± 0.5°

INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M - 1994.

ALL DIMENSIONS, TOLERANCES AND ROUGHNESS APPLY AFTER FINISHING, WHEN APPLICABLE.

NO BURRS ALLOWED, BREAK SHARP EDGES .01 MAX.

Animatics Corporation

TITLE
SM34165D SERIES W/CANOPEN AND EXT 24VIO OPTION

SIZE	DWG NO	
C	SM34165D-C-AD1	
DO NOT SCALE DRAWING	SCALE 2:3	SHEET 1 OF 1