SONA COMSTAR

Application – EV Traction Motor
Category – Electric Vehicle Motor
Product Code - AATC/XEV/TRAC/02/01
Model – Montra
Product Name - 7BMTPM08010 - TI Drive Motor Assy-LFP
Company Name – SONA BLW PRECISION FORGINGS LIMITED
Product as Per PLI Portal -Traction Motor

Index Reference Number	0004
Name of the Document	Photographs of the AAT component Drawings of the AAT Component
Annexure Number	-
Control / Document Number	SBPFL/PLI/TI/2026/0004

NAME : K.SANTHANA GOPALAN

[Authorized Signatory]

DESIGNATION : VP, FINANCE

DATE : 29-07-2026

Sona BLW Precision Forgings Ltd.

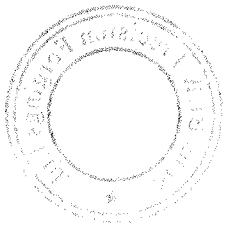
SONA BLW Precision Forgings Ltd.

Regd. Office :
Sona Enclave,
Village Begumpur Khatola,
Sector 35, Gurugram-122004,Haryana,India.
T +91 124 476 8200

Chennai Works:
Keelakaranai Village, Malrosapuram Post,
Maraimalai Nagar, Chengalpattu-603204.
Tamil Nadu, India
T +91 44 71473700 F +91 44 71473737

enquiry@sonacomstar.com
www.sonacomstar.com

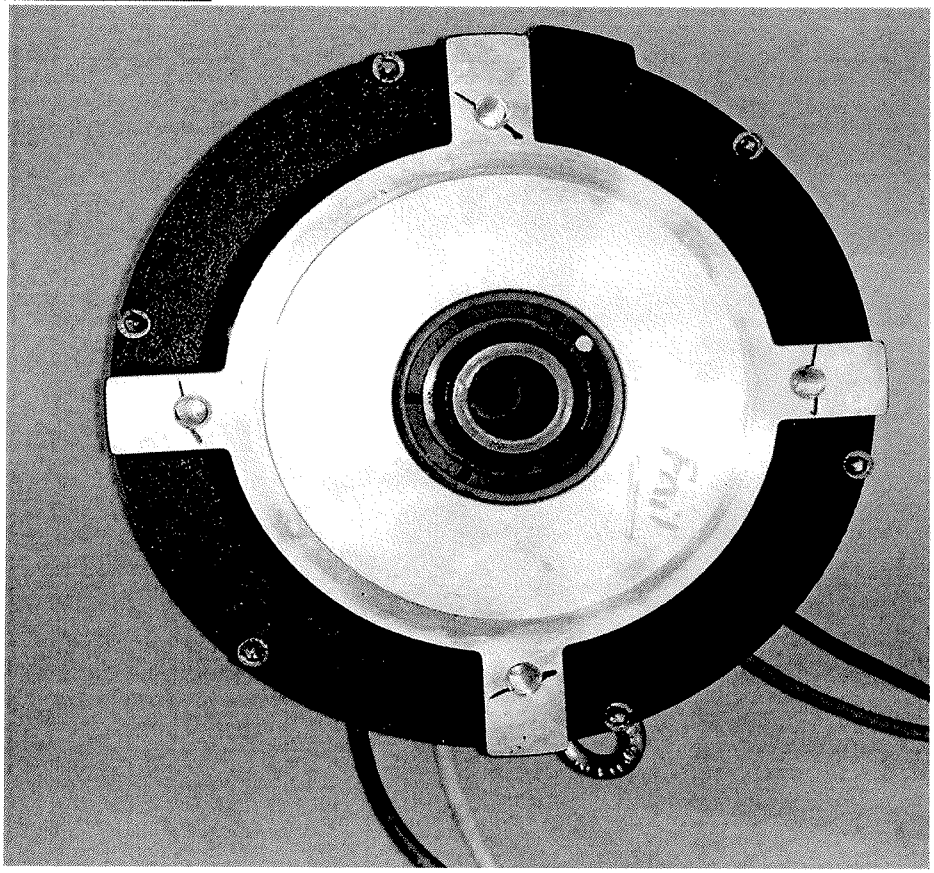
CIN L27300HR1995PLC083037



SONA COMSTAR

Application – EV Traction Motor
Category – Electric Vehicle Motor
Product Code - AATC/XEV/TRAC/02/01
Model – Montra
Product Name - 7BMTPM08010- TI Drive Motor Assy-LFP
Company Name – SONA BLW PRECISION FORGINGS LIMITED
Product as Per PLI Portal -Traction Motor

Top View



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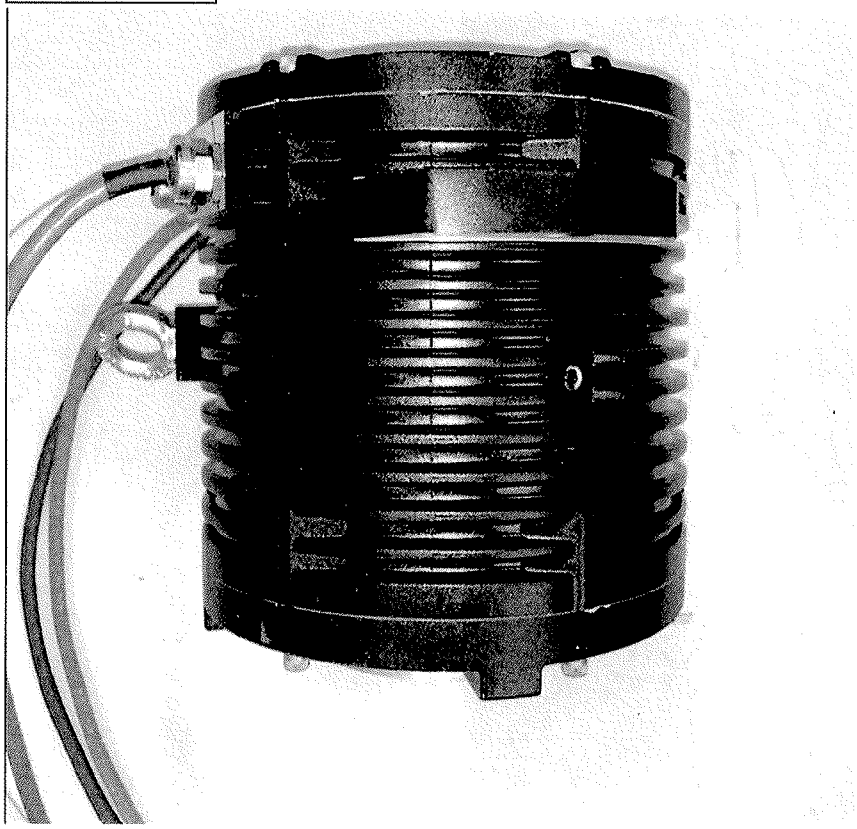
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CIN L27300HR1995PLC053037

SONA COMSTAR

Application – EV Traction Motor
Category – Electric Vehicle Motor
Product Code - AATC/XEV/TRAC/02/01
Model – Montra
Product Name - 7BMTPM08010- TI Drive Motor Assy-LFP
Company Name – SONA BLW PRECISION FORGINGS LIMITED
Product as Per PLI Portal -Traction Motor

Side View



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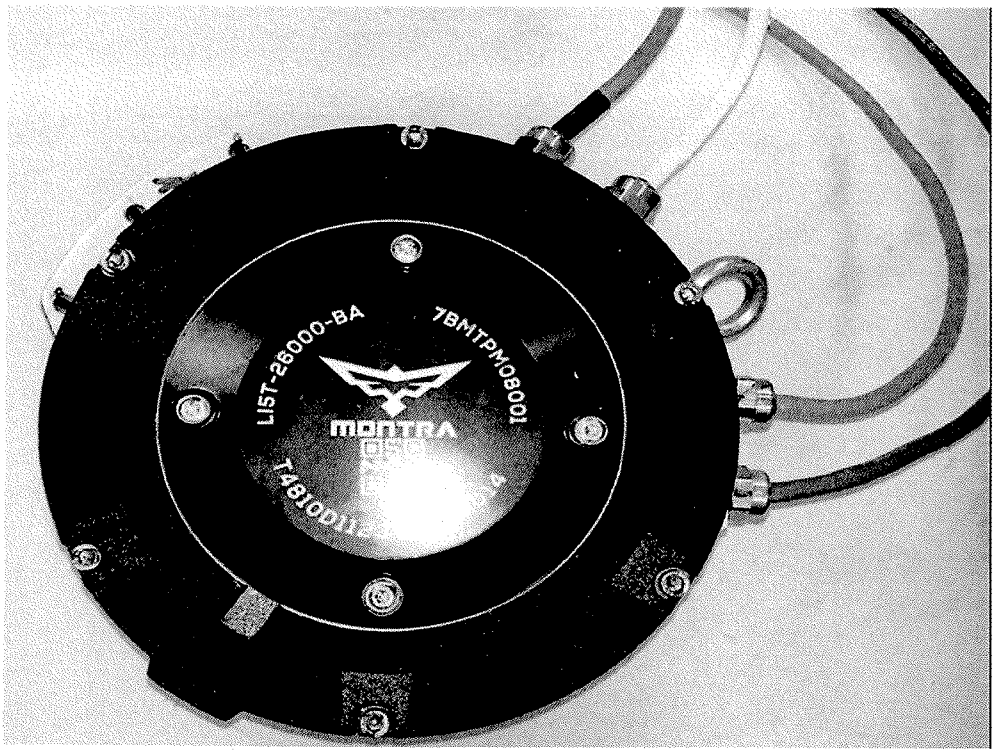
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CIN-L12300HR1995PLC083037

SONA COMSTAR

Application – EV Traction Motor
Category – Electric Vehicle Motor
Product Code - AATC/XEV/TRAC/02/01
Model – Montra
Product Name - 7BMTPM08010- TI Drive Motor Assy-LFP
Company Name – SONA BLW PRECISION FORGINGS LIMITED
Product as Per PLI Portal -Traction Motor

Bottom View



SONA BLW Precision Forgings Ltd.

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CIN-L27300HR1995PLC083037

SONA COMSTAR

Application – EV Traction Motor
Category – Electric Vehicle Motor
Product Code - AATC/XEV/TRAC/02/01
Model – Montra
Product Name - 7BMTPM08001 - TI Drive Motor Assy
Company Name – SONA BLW PRECISION FORGINGS LIMITED
Product as Per PLI Portal -Traction Motor

PRODUCT SPECIFICATION

Tech Parameter	Unit	TI Passenger
Application	E3W	E3W
GVW	Kg	**750**
Voltage	V	48
Nominal	Power KW	5
	Continuous Torque Nm	30 Nm
	Dc Current (Amp)	135
	Phase current – Arms	150
Peak	Power KW	10
	Max. Torque Nm	60
	Max Mot Speed (rpm)	5000
	Veh, Top Speed	60 Kmph
	DC current (A)	260
	Efficiency (%)	~90
Gradient GVW	deg	13 Deg @ 750 GVW @ 13 kmph
Acceleration –	0 to 40 kmph	8.2 S
Motor Weight (M)	Kg	14 Kg
Ingress Protection	-	IP67
Operating Temperature	deg	-10 to 45
Gear Ratio	-	8.33
cooling	-	Natural cooling
Insulation Requirement	Class	Class H

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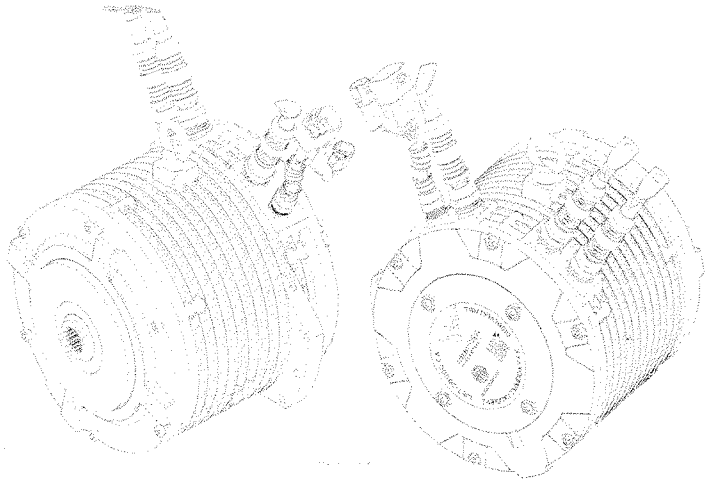
Chennai Works:
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CIN: L27100HR1995PLC083087

REV. NO.	REVISION DETAILS	ECN NO.	DRAWN	CHECKED	APPROVED
#	NEW DRAWING RELEASE	L5ME033	BNK 30-08-2024	SRS 30-08-2024	KPV 30-08-2024
#1	S2 DRAWING RELEASE	L5ME062	BNK 15-11-2024	SRS 15-11-2024	KPV 15-11-2024
#2	PHASE CABLE LUG WIDTH INCREASED	L5ME133	BNK 26-02-2025	SRS 26-02-2025	KPV 26-02-2025

Sona BLW Precision Forgings Ltd.



SONA COMSTAR

SIGNIFICANT	CRITICAL	SAFETY	COMPUTER GENERATED DRAWING. DO NOT CHANGE MANUALLY
ALL DIMENSIONS ARE IN mm			TO BE FREE FROM SHARP EDGES, BURRS & RUST
UNLESS OTHERWISE SPECIFIED			
TOLERANCES			REFER IS:2102: MEDIUM FOR MACHINING AND COARSE FOR FABRICATION
SURFACE PROTECTION			TO BE APPLIED WITH RPO AS PER IS 1154
SURFACE FINISH ASPER IS:3073 (CLA VALUE)			METRIC SCREW THREADS SHALL CONFORM TO THE LIMITS AND TOLERANCES SPECIFIED IN THE CURRENT IS:4218 CLASS 6g EXTERNAL OR 6H INTERNAL.

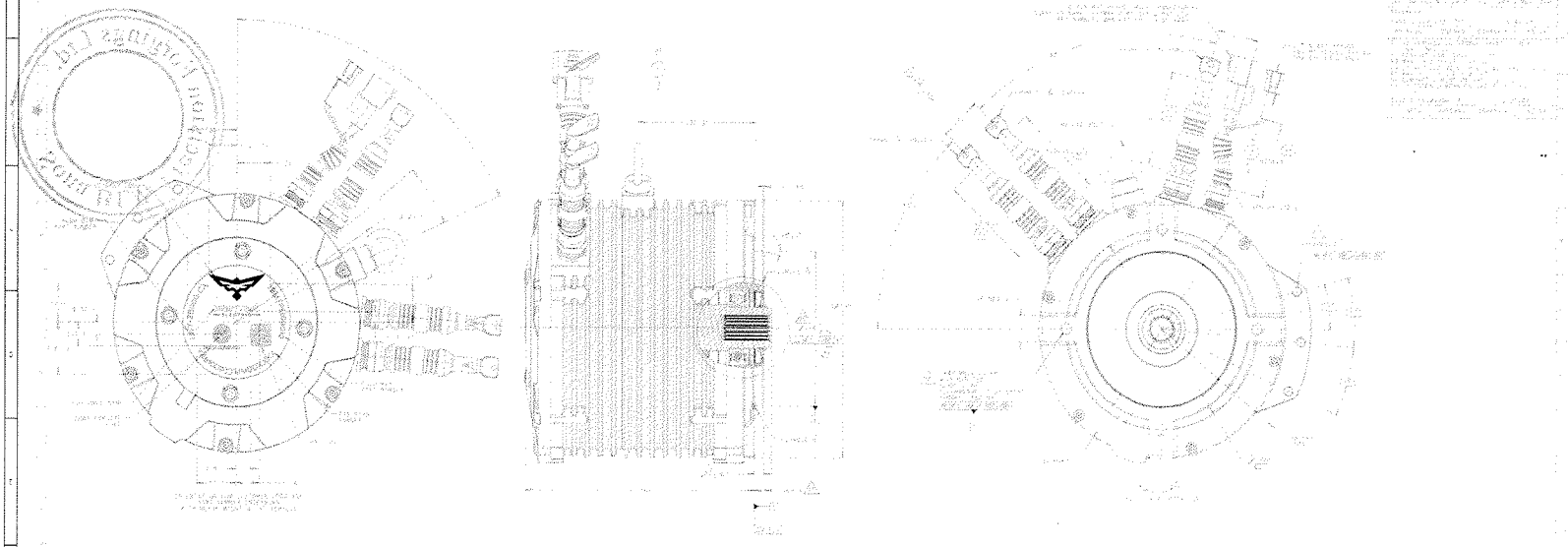
INDIA

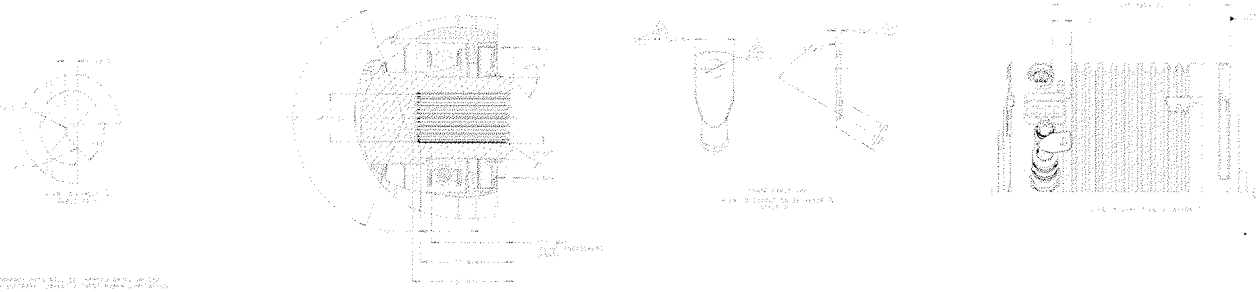
murugappa

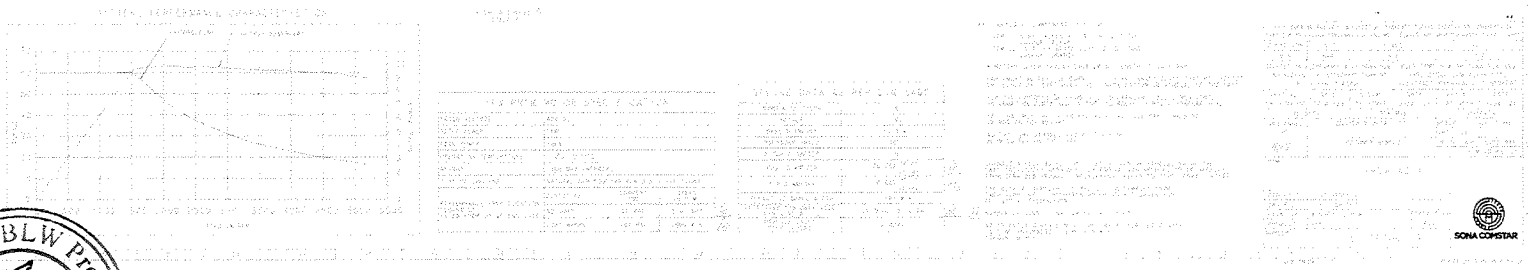
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FIRST ANGLE PROJECTION		DATE	ECN NO	DRAWN	CHECKED	APPROVED
		30-08-2024	L5ME033	BNK	SRS	KPV
SCALE	NTS	PROJECT CODE		EGV		
WEIGHT	14 KG	PROJECT NAME		L5M		
ASSEMBLY NO.	NO	DESCRIPTION		MOTOR-LFP		
REF. PT. NO.	-					
S/A. PT.NO.	7BMTPM08010	PART NO.		7BMTPM08010		
REV. NO.	#2	MATERIAL		NA		
		HEAT TREATMENT		-		
		RELEASE MATURITY		S2	SHEET NO.	2OF2
MONTRA		CENTRAL RESEARCH & DEVELOPMENT				

REV. NO.	REVISION DETAILS	ECN NO.	DRAWN	CHECKED	APPROVED
#	NEW DRAWING RELEASE	L5ME033	BNK 30-08-2024	SRS 30-08-2024	KPV 30-08-2024
#1	S2 DRAWING RELEASE	L5ME062	BNK 15-11-2024	SRS 15-11-2024	KPV 15-11-2024
#2	PHASE CABLE LUG WIDTH INCREASED	L5ME133	BNK 26-02-2025	SRS 26-02-2025	KPV 26-02-2025







SONA COMSTAR

Sona BLW Precision Forgings Ltd.

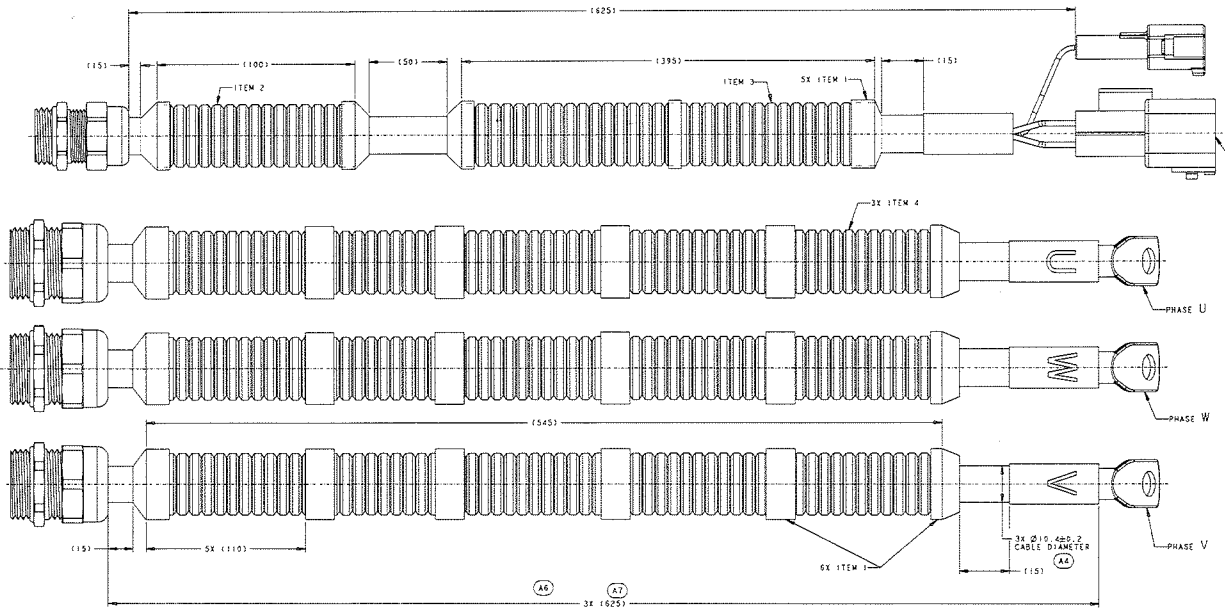
SIGNIFICANT	CRITICAL	SAFETY	COMPUTER GENERATED DRAWING. DO NOT CHANGE MANUALLY
ALL DIMENSIONS ARE IN mm			TO BE FREE FROM SHARP EDGES, BURRS & RUST
UNLESS OTHERWISE SPECIFIED			
TOLERANCES			REFER IS:2102: MEDIUM FOR MACHINING AND COARSE FOR FABRICATION
SURFACE PROTECTION			TO BE APPLIED WITH RPO AS PER IS 1154
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INDIA

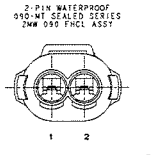
murugappa

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FIRST ANGLE PROJECTION		DATE	ECN NO	DRAWN	CHECKED	APPROVED
		30-08-2024	L5ME033	BNK	SRS	KPV
SCALE	NTS	PROJECT CODE		E3W		
WEIGHT	14 KG	PROJECT NAME		L5M		
ASTHETIC ITEM	NO	DESCRIPTION		MOTOR-LFP		
REF. PT. NO.	-					
S/A. PT NO.	7BMTPM08010	PART NO.		7BMTPM08010		
REV. NO.	#2	MATERIAL		NA		
		HEAT TREATMENT		-		
		RELEASE MATURITY		S2	SHEET NO.	1OF2
MONTRA		CENTRAL RESEARCH & DEVELOPMENT				

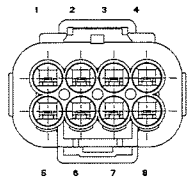


PICTORIAL REPRESENTATION OF COT-TUBE & POINT TAPE ON PHASE CABLE AND SENSOR CABLE ASSY



VIEW IN DIRECTION OF ARROW Z
SCALE 4:1

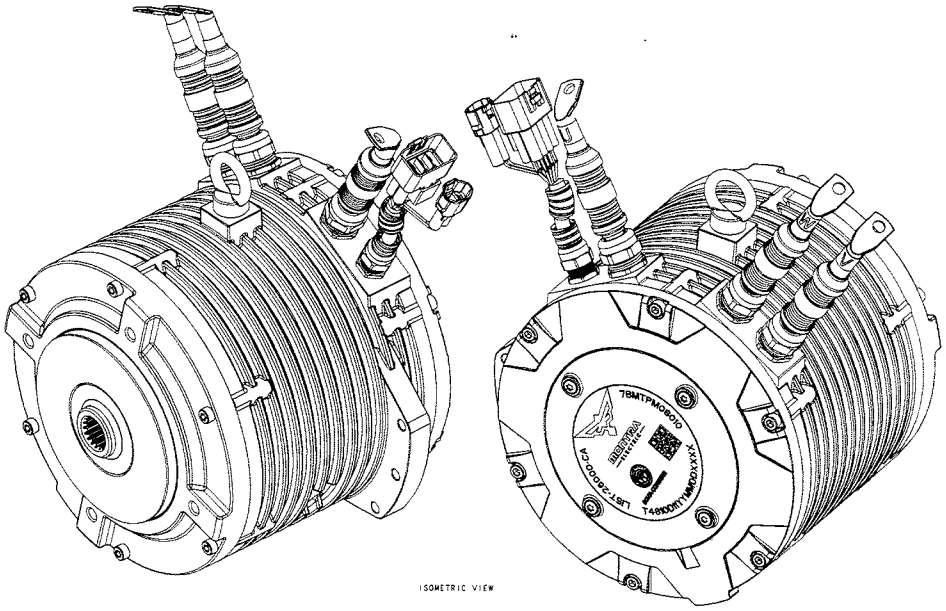
THERMISTOR CONNECTOR PIN DETAILS		
LEGEND	COLOUR	DESCRIPTION
1	WHITE	THERMAL SENSOR-1(O/P)
2	BROWN	THERMAL SENSOR-2(O/P)



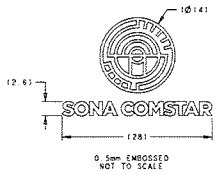
VIEW IN DIRECTION OF ARROW Z
SCALE 2:1

ON AXIS SENSOR CONNECTOR PIN DETAILS		
LEGEND	COLOUR	DESCRIPTION
1	ORANGE	VCC (+Ve)
2	GREY	TRI AXIS_CS
3	BLACK	GND (-ve)
4	YELLOW	TRI AXIS_MOSI
5	GREEN	TRI AXIS_MISO
6	BLUE	TRI AXIS_CLK
7	VIOLET	SHIELD GROUND

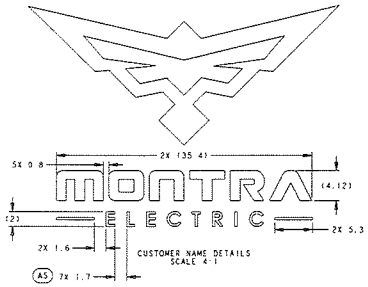
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ORIGINATOR	REVIEWER	ENGR APP	MATL APP	
RELEASED				
EV00 E 50022996 261			20241129	
ADINESH	PPREMAN	GBHARATH	KSIVA	
A1 4X REMOVED (NO) (NS) (NO)				
A2 REVISED PART NUMBER (NO) (NS) (NO)				
A3 WAS (A2) SHEET 1 (NO)				
A4 2X REVISED SOFTWARE REVISION (NO) (NS) (NO)				
A5 WAS (A2) SHEET 2 (NO)				
A6 REMOVED DIMENSION SHEET 2 (JJ) (NO)				
A7 2X ADDED DIMENSION SHEET 1&2 (NO) (JJ) (NO)				
EV00 G 50022996 290			20250225	
ADINESH	PPREMAN	GBHARATH	KSIVA	



ISOMETRIC VIEW

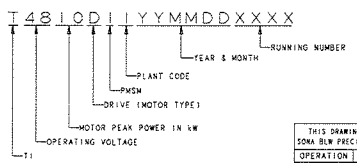


0.5mm EMBOSSED
NOT TO SCALE



QR CODE, LOGO & TRACKING NUMBER DETAILS

DETAILS	HEIGHT	LENGTH
SONA BLW PART NO.	4	42
CUSTOMER PART NO.	4	45.2
TRACKING NUMBER	4	41.1
QR CODE	15.8	15.8
CUSTOMER LOGO	19.31	43.2
CUSTOMER NAME LINE 1	4.12	35.4
CUSTOMER NAME LINE 2	2	35.4
TEXT STYLE	NEXA BOLD	
SONA BLW LOGO	Ø14	
SONA BLW NAME	2.6	28



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OPERATION	UNIT	PLANT	SAFETY
N/A	N/A	N/A	N/A
DRAFTED IN ACCORDANCE WITH SONA BLW ENGINEERING CAD STANDARDS CURRENT AT INITIAL RELEASE		MUST COMPLY WITH SONA BLW AND APPLICABLE OEM RESTRICTED SUBSTANCE MANAGEMENT STANDARDS	

INITIAL / DATE	INITIAL / DATE	INITIAL / DATE
ORIGINATOR 20241129	REVIEWER 20241129	ENGINEER 20241129
ADINESH	PPREMAN	GBHARATH

3RD ANGLE PROJ	CUSTOMER DATA TYPE --	SCALE: 1:1 UNITS: mm
		SHT 2 OF 2
	CUSTOMER NUMBER --	P RELEASE: A1001498
		DIM IS MASTER

NAME: PMSM ASSY

CAD FILE	L15T-26000-C
DWG FILE	L15T-26000-C
DATA LOC	WINDCHILL PDM
DATA TYPE	
PRODUCT	xEV
PROJE	
NUMBER	L15T-26000-CA

SONA COMSTAR

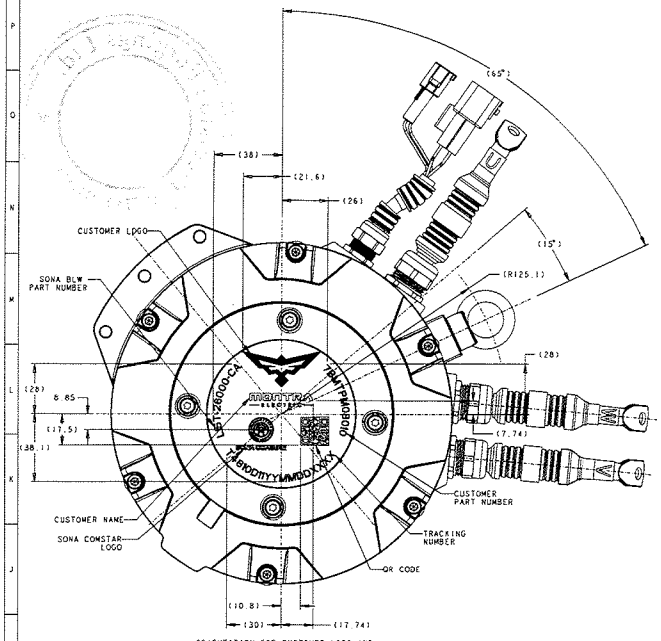
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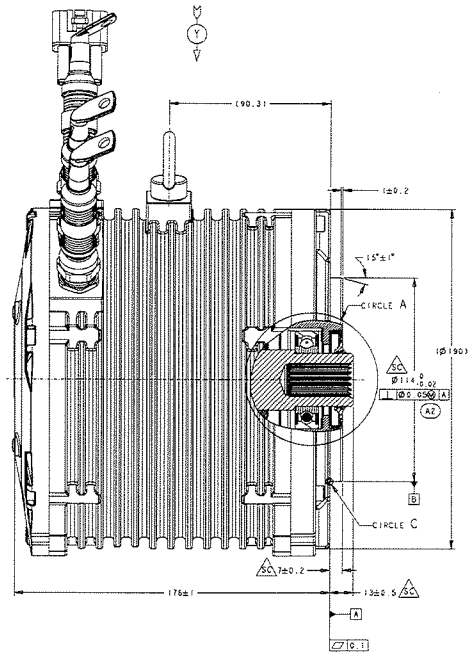
LTRS	REVISIONS			
ORIGINATOR	REVIEWER	ENGR APP	MATL APP	
RELEASED				
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ADINESH	PPREMAN	GBHARATH	KSIVA	

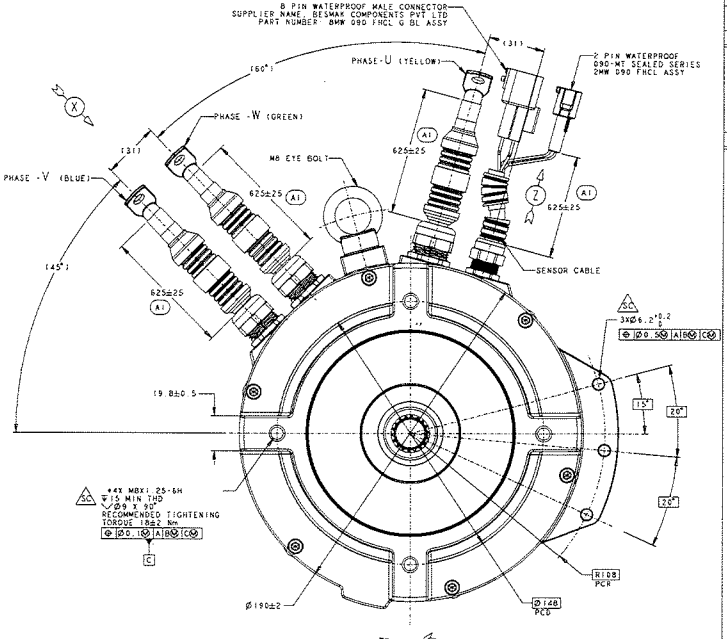
A1 4X REMOVED SC SYMBOL SHEET 1 (W1D), (N8),(N5),(O7)
A2 REVISED GD&T SHEET 1 (K8)
A3 WAS 13 5 SHEET 1 (H13)
A4 23 REVISED NOTE SHEET 1&2 (A9), (J11)
A5 WAS 24 1 / SHEET 2 (N7)
A6 REMOVED DIMENSION SHEET 2 (J17)
A7 23 ADDED DIMENSION SHEET 1&2 (R9), (J16)

EVOO E 50022996 290			20250225
ADINESH	PPREMAN	GBHARATH	KSIVA

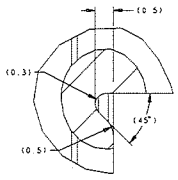


ORIENTATION FOR CUSTOMER LOGO AND PART NUMBER ENGRAVING WITH MOTOR MOUNTING AT VEHICLE

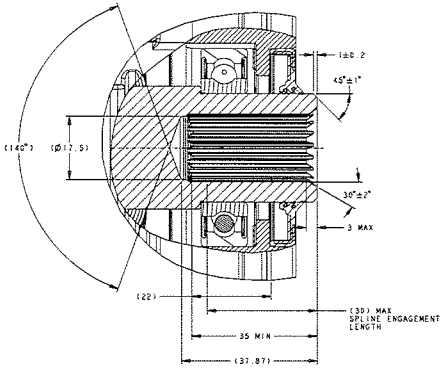




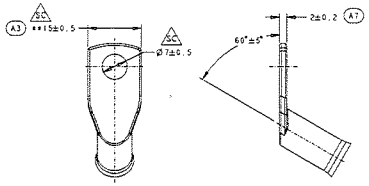
DIRECTION OF ROTATION



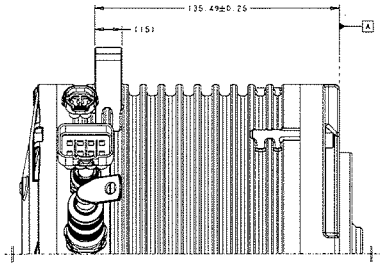
VIEW IN CIRCLE C
SCALE 20:1



VIEW IN CIRCLE A
SCALE 2:1



PHASE CABLE LUG
VIEW IN DIRECTION OF ARROW X
SCALE 2:1

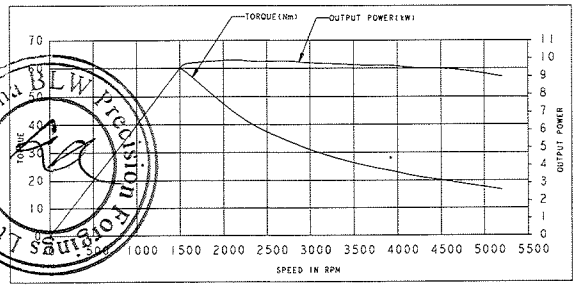


VIEW IN DIRECTION OF ARROW Y

NOTE

1. THIS PERFORMANCE DATA WILL BE CHANGED BASED ON THE CONTROLLER SOFTWARE CURRENT / INPUT POWER LIMITATION

TYPICAL PERFORMANCE CHARACTERISTICS



5kW PMSM MOTOR SPECIFICATION				
RATED VOLTAGE	48V DC			
RATED POWER	5kW			
PEAK POWER	10kW			
OPERATING TEMPERATURE	-10°C TO 50°C			
WEIGHT	14±g MAX (APPROX)			
TYPE OF COOLING	NATURAL AIR COOLING(MIN 3 m/s, AIR FLOW)			
PERFORMANCE SPECIFICATION CLOCKWISE (VIEW FROM DRIVE END SIDE)	CONDITION	CURRENT (ADC)	SPEED (R.P.M)	
	NO LOAD	26 MAX	5100 MAX	SC
	LOAD Ø26Nm	198 MAX	2900 MIN	SC

SPLINE DATA AS PER DIN_5480		
NUMBER OF TEETH	18	
MODULE	1.00	
BASE DIAMETER	16.914	
PRESSURE ANGLE	20°	
PITCH DIAMETER	18	
ROOT DIAMETER	20.250 +0.24 +0.102	SC
TIP DIAMETER	18.055 +0.14 +0.007	SC
EFFECTIVE SPACE WIDTH	1.861 MIN	
EFFECTIVE PIN OVER SIZE PIN SIZE:Ø1.75	16.36+0.13/-0.04	SC
PROFILE SHIFT COEFFICIENT	0.4241	

** CHECKED AT COMPONENT LEVEL ONLY
ITEM 1: VINYL ADHESIVE TAPE NO.21011VH COLOUR: BLACK
ITEM 2,3 & 4: FR GRADE UL94-V2 COT TUBE COLOUR: ORANGE

4 MATING SCREW THREAD ENGAGEMENT LENGTH IS 14.5 MAX

PART MUST BE FREE OF BURRS, FLASH AND SHARP EDGES THAT MAY AFFECT THE FUNCTION, SAFE HANDLING, INSTALLATION OR REMOVAL OF THE PART

FOR THE PURPOSES OF GEOMETRIC TOLERANCING, ALL DIMENSIONAL INFORMATION CONTAINED IN THE CAD MODEL IS BASIC (THEORETICAL)

PART HAS MET THE POLYMERIC MATERIAL CODE PARTS MARKING EXEMPTION FOR WEIGHT

NO PHYSICAL DAMAGES AND RUST ARE NOT PERMISSIBLE ON THE SHAFT

CHANGES AFFECTING DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM SONA BLW PRODUCT ENGINEERING. REFER TO IATF 16949 (LATEST)

ENGINEERING APPROVAL OF PRODUCTION SAMPLES FROM EACH SUPPLIER IS REQUIRED PRIOR TO AUTHORIZATION OF INITIAL PRODUCTION

A4 NUMBER OF SIGNIFICANT CHARACTRISTICS-12

MOTOR OUTER SURFACE MUST CONFORM AS PER CES-22553-E
COATING THICKNESS: 25 MICRON MIN
COLOUR: BLACK

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OPERATION	UNIT	PLANT	SAFETY
N/A	N/A	N/A	N/A

DRAFTED IN ACCORDANCE WITH SONA BLW ENGINEERING CAD STANDARDS CURRENT AT INITIAL RELEASE

MUST COMPLY WITH SONA BLW AND APPLICABLE OEM RESTRICTED SUBSTANCE MANAGEMENT STANDARDS

INITIAL	DATE	INITIAL	DATE	INITIAL	DATE
ORIGINATOR	20241129	REVIEWER	20241129	ENGINEER	20241129
ADINESH		PPREMAN		GBHARATH	

3RD ANGLE PROJ	CUSTOMER DATA TYPE	SCALE 1:1	UNITS mm
		SHT 1 OF 2	
	CUSTOMER NUMBER	P RELEASE A1001498	
		DIM IS MASTER	

NAME: PMSM ASSY

CAD FILE	L1ST-26000-C		
DWG FILE	L1ST-26000-C		
DATA LOC	WINDCHILL PDM	DATA TYPE	
PRODUCT	xEV	PROE	
NUMBER	L1ST-26000-CA		

SONA COMSTAR

DWG SIZE A0/E

(DAW PMSM (T1))

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