



ISO 9001: 2015

ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA
(A GOVERNMENT OF INDIA UNDERTAKING MINIRATNA COMPANY)
UNDER MINISTRY OF SOCIAL JUSTICE & EMPOWERMENT
AN ISO 9001:2015 COMPANY, G T ROAD, KANPUR- 209217
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Toll Free No. 1800 180 5129



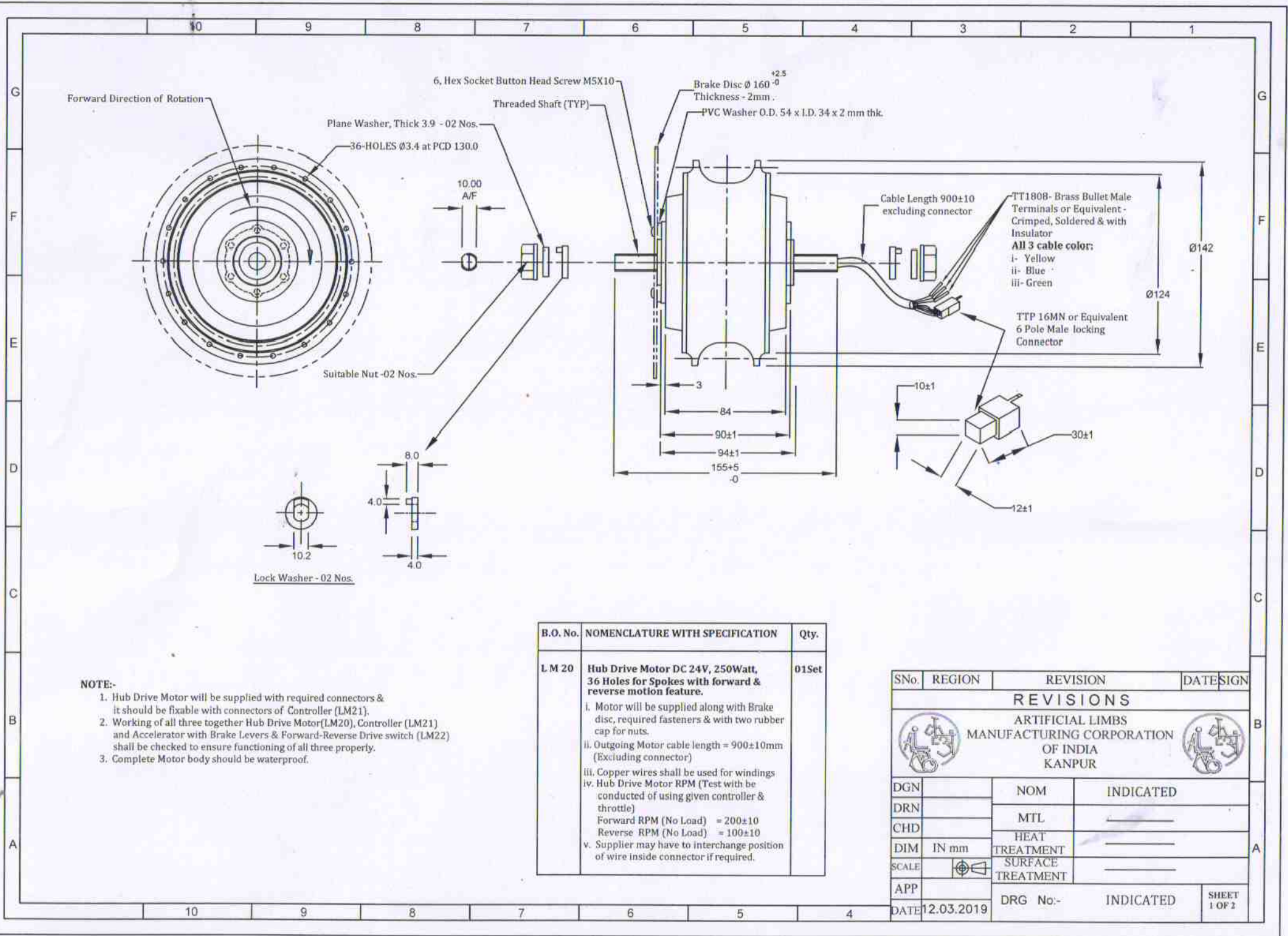
NOTICE

As per instruction of competent authority, Technical specification for HUB Drive Motor DC 24V & 250Watt, Controller and Throttle has been revised and revised specification are appended herewith to this notice.

Suggestions/Comments on the above revised specification, if any, are invited from all the concerned within 7 days from the date of hosting of this Notice on our website for consideration by Corporation.

The observation/ comments, if any, may be sent to email: manager_dd@alimco.in latest by 17/05/2019 up to 17.30 Hrs.

MANAGER (DD), ALIMCO, KANPUR



NOTE:-

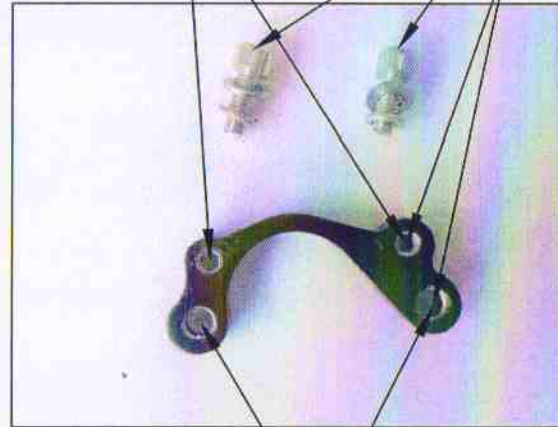
- Hub Drive Motor will be supplied with required connectors & it should be fixable with connectors of Controller (LM21).
- Working of all three together Hub Drive Motor(LM20), Controller (LM21) and Accelerator with Brake Levers & Forward-Reverse Drive switch (LM22) shall be checked to ensure functioning of all three properly.
- Complete Motor body should be waterproof.

B.O. No.	NOMENCLATURE WITH SPECIFICATION	Qty.
LM 20	Hub Drive Motor DC 24V, 250Watt, 36 Holes for Spokes with forward & reverse motion feature. i. Motor will be supplied along with Brake disc, required fasteners & with two rubber cap for nuts. ii. Outgoing Motor cable length = 900±10mm (Excluding connector) iii. Copper wires shall be used for windings iv. Hub Drive Motor RPM (Test with be conducted of using given controller & throttle) Forward RPM (No Load) = 200±10 Reverse RPM (No Load) = 100±10 v. Supplier may have to interchange position of wire inside connector if required.	01Set

SNo.	REGION	REVISION	DATE	SIGN
REVISIONS				
 ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR 				
DGN		NOM	INDICATED	
DRN		MTL	_____	
CHD		HEAT	_____	
DIM	IN mm	TREATMENT	_____	
SCALE		SURFACE	_____	
APP		TREATMENT	_____	
DATE	12.03.2019	DRG No:-	INDICATED	SHEET 1 OF 2



Caliper Assembly for Disc Brake



Mounting Adadpter

2 Nos. Hex Socket Head Screw M6
 2 Nos. Plane Washer Thick 1.5mm
 2 Nos. Spring Washer Thick 2mm } To be used for Mounting

Centre Distance Between two holes-16 mm

8.0 to 10mm Thickness

Hole of ϕ 7(typ) & Centre Distance Between two holes-60 mm

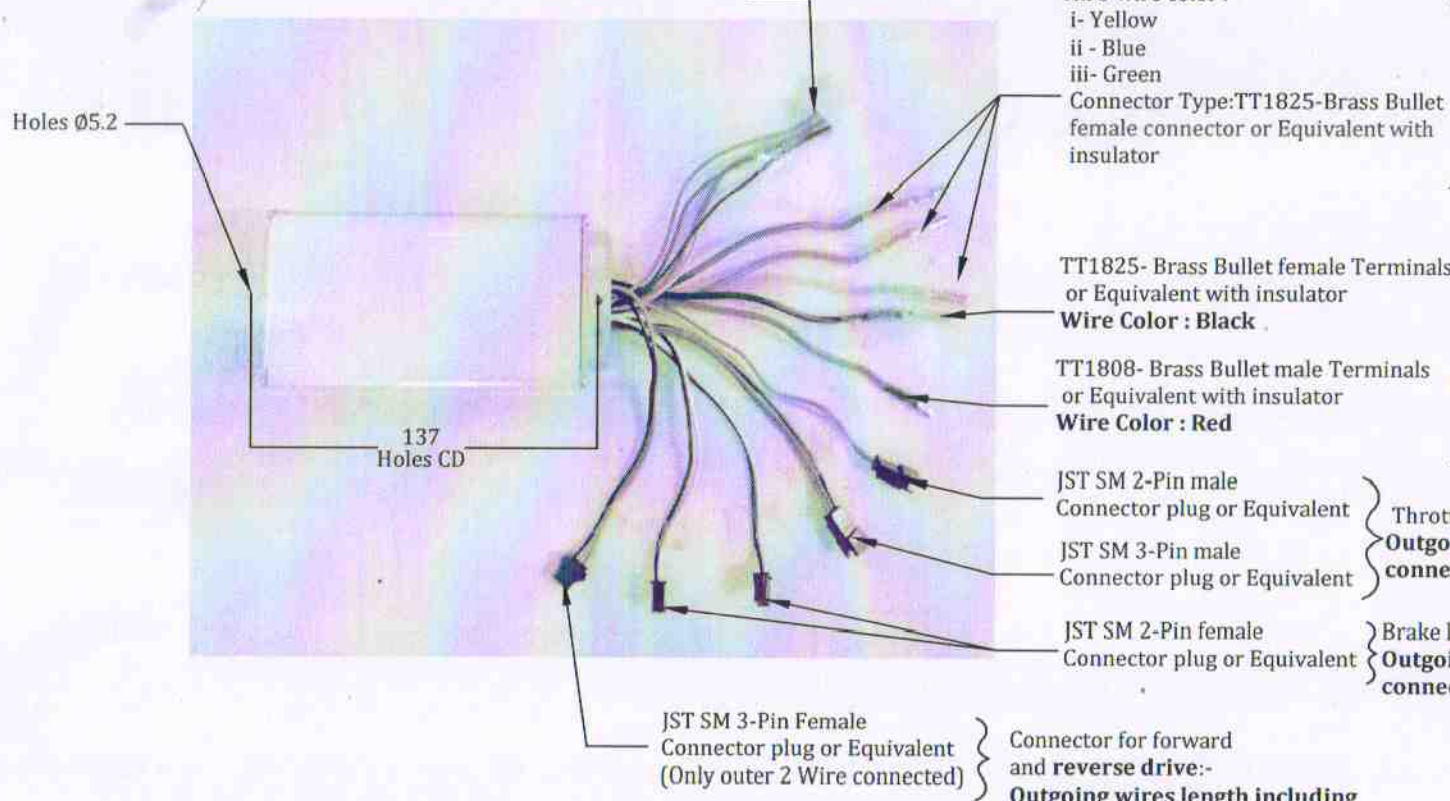
Code No.	Nomenclature
-----	Caliper Assy for Disc Brake: Specification:-
	i. Material - Aluminium alloy
	ii. Colour - Black
	iii. Suitable for 160mm brake disc
	iv. Length: approx. 7.4cm/2.9inch
	v. Will be supplied along with all kind of fastenres including mounting fasteners.
	vi. Weight - 240 \pm 10gms

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ARTIFICIAL LIMBS MANUFACTURING CORPORATION OF INDIA KANPUR				
DGN		NOM	Indicated	
DRN		MTL	Indicated	
CHD		HEAT TREATMENT	-----	
DIM	IN mm	SURFACE TREATMENT	-----	
SCALE				
APP				
DATE		DRG No:-	SHEET 2 OF 2	

Sensor wires Colour- Red, Black, Yellow, Blue & Green } Motor sensor wire connections
 Connector Type :- TTP 16FN or Equivalent 6 Pole Female Locking Connector

Outgoing wires length including connectors: 150mm



All 3 wire color :
 i- Yellow
 ii - Blue
 iii- Green

Connector Type:TT1825-Brass Bullet female connector or Equivalent with insulator

Motor connections
Wire Details:-
 Cross-sectional Area in Sq. mm = 2.0 to 2.5 as per relevant IEC standard
Outgoing wires length including connectors: 150mm

TT1825- Brass Bullet female Terminals or Equivalent with insulator
Wire Color : Black

TT1808- Brass Bullet male Terminals or Equivalent with insulator
Wire Color : Red

DC 24V Input
Wire Details:-
 Cross-sectional Area in Sq. mm = 2.0 to 2.5 as per relevant IEC standard
Outgoing length including connectors: Red Colour wire : 80mm Black colour wire : 180mm

JST SM 2-Pin male Connector plug or Equivalent
 JST SM 3-Pin male Connector plug or Equivalent

Throttle Connections.
Outgoing wires length including connectors: 150mm

JST SM 2-Pin female Connector plug or Equivalent

Brake levers connection
Outgoing wires length including connectors: 150mm

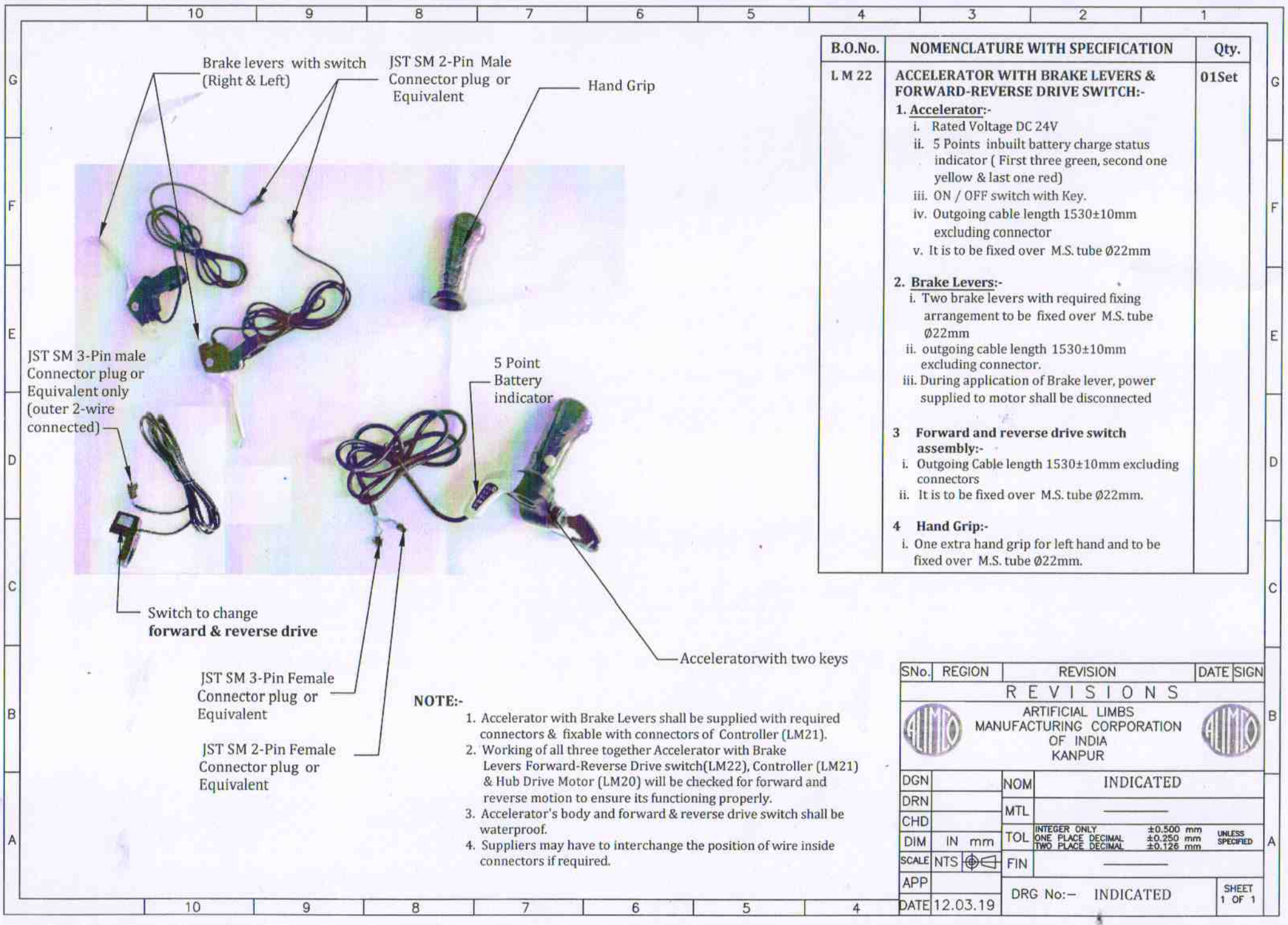
JST SM 3-Pin Female Connector plug or Equivalent (Only outer 2 Wire connected) } Connector for forward and reverse drive:-
Outgoing wires length including connectors: 150mm

B.O.No.	NOMENCLATURE WITH SPECIFICATION	Qty.
LM 21	BRUSHLESS DC MOTOR CONTROLLER WITH REVERSE DRIVE :- i. Rated Voltage DC24V. ii. Current Rating 19±1 Amps. iii. Working Voltage DC 20V to DC 30V iv. Controller with proper fixing & holding arrangement so that it can be fixed on the chassis at proper place & position. v. Output of controller shall be such that the Hub Drive Motor reverse RPM shall be half of forward RPM approx. (Refer Drg No. LM 20 for RPM details.)	01Set

NOTE:-

1. Controller shall be supplied with required connectors & fixable with connectors of Hub Drive Motor (LM20) & Accelerator with Brake Levers (LM22).
2. Working of all three together Accelerator with Brake Levers & Forward-reverse drive switch (LM22), Controller (LM21) & Hub Drive Motor (LM20) will be checked for forward and reverse drive to ensure its functioning properly.
3. Controller's body shall be waterproof.
4. Suppliers may have to interchange position of wires inside connectors if required.

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REVISIONS				
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DGN		NOM	INDICATED	
DRN		MTL	---	
CHD			---	
DIM	IN mm	TOL	INTEGER ONLY ONE PLACE DECIMAL TWO PLACE DECIMAL	±0.500 mm ±0.250 mm ±0.126 mm
SCALE	NTS	FIN	---	
APP			---	
DATE	12.03.2019	DRG No:-	INDICATED	SHEET 1 OF 1



B.O.No.	NOMENCLATURE WITH SPECIFICATION	Qty.
LM 22	ACCELERATOR WITH BRAKE LEVERS & FORWARD-REVERSE DRIVE SWITCH:- 1. Accelerator:- i. Rated Voltage DC 24V ii. 5 Points inbuilt battery charge status indicator (First three green, second one yellow & last one red) iii. ON / OFF switch with Key. iv. Outgoing cable length 1530±10mm excluding connector v. It is to be fixed over M.S. tube Ø22mm 2. Brake Levers:- i. Two brake levers with required fixing arrangement to be fixed over M.S. tube Ø22mm ii. outgoing cable length 1530±10mm excluding connector. iii. During application of Brake lever, power supplied to motor shall be disconnected 3 Forward and reverse drive switch assembly:- i. Outgoing Cable length 1530±10mm excluding connectors ii. It is to be fixed over M.S. tube Ø22mm. 4 Hand Grip:- i. One extra hand grip for left hand and to be fixed over M.S. tube Ø22mm.	01Set

NOTE:-

1. Accelerator with Brake Levers shall be supplied with required connectors & fixable with connectors of Controller (LM21).
2. Working of all three together Accelerator with Brake Levers Forward-Reverse Drive switch(LM22), Controller (LM21) & Hub Drive Motor (LM20) will be checked for forward and reverse motion to ensure its functioning properly.
3. Accelerator's body and forward & reverse drive switch shall be waterproof.
4. Suppliers may have to interchange the position of wire inside connectors if required.

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DGN		NOM	INDICATED	
DRN		MTL		
CHD		TOL		
DIM	IN mm	INTEGER ONLY	±0.500 mm	UNLESS SPECIFIED
		ONE PLACE DECIMAL	±0.250 mm	
SCALE	NTS	TWO PLACE DECIMAL	±0.126 mm	
APP		FIN		
DATE	12.03.19	DRG No:-	INDICATED	
				SHEET 1 OF 1