

RAIL COACH FACTORY, KAPURTHALA

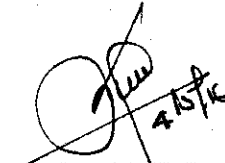
MD46111

Date: 04.05.2016

Sub: Schedule of Technical Requirements for water level Indicator for Overhead water tanks on Indian Railway Coaches to MDTS-16290 Rev-00.

Please find enclosed a copy of Schedule of Technical Requirements for water level Indicator for Overhead water tanks on Indian Railway Coaches to MDTS-16290 Rev-00.

Encl. MDTS-16290 Rev-00.


Dy CME/D-1

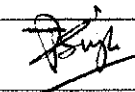

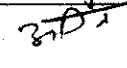
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CQM, CPLE, CWE/Fur, CMM/RCF, CMT, CMM/TKJ
SSE/Record
SSE/Lib/Design
SE/Design/RCF/TKJ

SPECIFICATION No. MDTS 16290 Rev-00	Schedule for Technical Requirements for Water Level Indicator for Overhead Tanks on Indian Railway Coaches	DATED 03.05.2016 PAGE 1 OF 3
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Designation	Name	Signature	Date	Level
SSE/Fur	T. P. Singh		03.5.16	Prepared
Dy.CME/D-1	Suraj Prakash		03.5.16	Agreed & Reviewed
CDE	A. K. Kathpal		03.5.16	Approved

Issue/Rev	Details of Changes	Date


Prepared by


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1. **OBJECTIVE:**

Objective of the device i.e. water level indicator is to display the level of water in tank at convenient place from where the level of water in overhead tank can be ascertained. This would help railway staff in taking quick decision whether the particular tank is required to fill up or not at coach watering station.

2. **INTRODUCTION:**

Water level indicator for IR coaches shall consist of three components namely one Primary Display unit, two Secondary Display units and a sensor unit. Primary display unit indicating water level shall be installed inside the coach where as two Secondary Display units shall be installed outside the coach at the top of the toilet window on either side of the coach. Sensor unit installed in the tank shall be suitable to sense availability of water in tank at three different levels namely low, medium and high.

3. **TECHNICAL SPECIFICATION:**

- Device can be divided into 3 major parts:-
 - a) Primary Display Unit-01 nos.
 - b) Secondary Display Unit-02 nos.
 - c) Sensor- 01 nos.
- Input Voltage
 - a) AC 110V
- Display devices LED 5mm x 5 in each row
- 10 LEDs will be displaying each level
- Each level will be displayed by 2 rows of LED's in parallel
- Micro-Controller based device shall be used for higher reliability , steady performance and accuracy
- Only glass proxy PCB will be used for same purpose, all other electronic component will be of reputed brands like Philips, ST, Micro-Chip, Keltron, Motorola.
- An polycarbonate cover of 5mm thick will be used to protect LED indicators from external damage
- High glow LEDs indication and should be visible from a good distance even in presence of direct sunlight


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- Long life of LEDs should be used for the reliability of the device.
- Technical requirement of sensor:
Magnetic float type level sensors shall be used to determine/sense the water level. The magnetic type sensor shall meet following:
 - Give digital output i.e. either 1 or 0
 - Maintenance free, no salt deposition
 - Work with wide voltage range 1V-110V
 - Higher accuracy

4. INSTALLATION:

Installation & commissioning of the product shall be done by vendor.

5. BILL OF QUANTITY:

One set of water level indicator for IR coach consists of following:

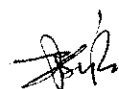
- (i) Primary Display Unit - 02 nos
- (ii) Secondary Display Unit - 04 nos
- (iii) Sensor - 02 nos


7. WARRANTY:

Warranty of the product shall 36 months after the date of commissioning

8. UPGRADATION OF DESIGN :

Notwithstanding above specification, supplier may offer alternate design of water level indicator having better features and reliability with adequate justification for the same. However, RCF's decision on all such matters shall be final.


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