



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

**Interim
Provisional Certificate of Approval
No P6/14H/4**

Re-approved 25 August 2010

VALID FOR VERIFICATION PURPOSES UNTIL 1 DECEMBER 2010

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the

Trakblaze Model LTS10 Train Weighing-in-motion Instrument

submitted by Trakblaze Australia Pty Ltd
5 Sara Grove
TOTTENHAM VIC 3020.

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 106, *Automatic Rail Weighbridges*, dated July 2004.

CONDITIONS OF APPROVAL

Note: It is generally a requirement under the national measurement legislation that pattern approved measuring instruments be certified or verified before being used for trade or other legal purposes.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI P6/14H/4' and only by persons authorised by the submitter. (Note: The 'P' in the approval number may be a temporary marking.)

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

Special Conditions of Approval:

For this type of instrument, the ability to perform (and continue to perform) within specified maximum permissible errors can depend substantially on characteristics of the rail alignment and the stability of the material on which the rail sleepers rest (whether ballast, concrete footings or some other arrangement). However the National Measurement Institute is unable to clearly define particular requirements for material on which the rail sleepers shall rest.

It is the responsibility of the submitter to exercise control over any installation to ensure compliance with this approval and to ensure performance (and continued performance) within the appropriate maximum permissible errors.

The ability to perform within specified maximum permissible errors can also depend on characteristics of the rail vehicles being weighed (for example wagons with 'flat wheels', rubbing brakes or stiff couplings can be detrimental to performance). Consequently rail operators have a responsibility to ensure adequate maintenance of the rail vehicles (otherwise maximum permissible errors may not be able to be met).

In the event of unsatisfactory performance, allowable accuracy classes or modes of operation may need to be altered, additional conditions imposed or this approval may be withdrawn.

Instruments shall be verified annually.

Special Conditions of Approval: (Provisional)

This approval is limited to one (1) instrument located at Worsley, WA.

This approval remains provisional subject to the conditions stipulated in the letter dated 25 August 2010 from NMI to Trakblaze, reference R2010/152–20100825a.

Where (a) the submitter does not provide documentation, instrumentation, equipment and/or assistance as detailed in the above letter or (b) the results obtained from testing the sample instrument are not deemed satisfactory by the NMI, the certificate of approval may be withdrawn.

The 'P' in the approval number may be a temporary marking.

DESCRIPTIVE ADVICE

Pattern: provisionally approved 10 March 2009 – re-approved 25 August 2010

- The Trakblaze model LTS10 weighing instrument for the determination (by measurement of wheel forces) of the mass of wagons and hence the total mass of a train, when weighed in motion. May also be known as a Huoan model GCU-100BS system.

Note: The system is not approved for wagon weighing – only total train weight values are approved for trade use.

The Trakblaze model LTS10 system consists of a load receptor incorporating five steel sleepers, to each of which are fitted two Trakblaze model SS_20T load cells which support the rails.

In addition four Trakblaze model ST-200KN lateral force sensors are provided (inserted into holes drilled in the web of the rails), two at each end of the set of five sleepers fitted with load cells. These sleepers, together with a number of similar adjacent sleepers (not fitted with load cells) are firmly bolted together at the ends of the sleepers.

Instruments are approved for use within the following limits:

Accuracy class: train weighing	0.5, 1 or 2
Maximum capacity	20.625 tonne per axle
Minimum capacity	3.75 tonne per axle
Scale interval	0.1 tonne
Maximum wagon weight	82.5 tonne
Minimum wagon weight	15 tonne
Maximum operating speed	40 km/h (or less)
Minimum operating speed	5 km/h (or more)

The Trakblaze model LTS electronics consist of a Trakblaze model HA-FD-16 Track Scale Signal Adjustor unit, to which the load cells and lateral force sensors are connected. This unit is attached to a Trakblaze model HA-FW-10 Track Scale Network Server unit, which provides digital information regarding the load cell and lateral forces, via a TCP/IP networking protocol to a personal computer.

The personal computer uses Trakblaze model CZ processing software to process the information provided by the load cells and lateral force sensors to determine weight values. It also uses Trakblaze model LTS reporting software to create result files and total train weight reports, including indication of overspeed and underspeed conditions, the determination of unweighed vehicles and to provide the operator interface. The personal computer is connected to a printer and/or a modem or network connection for the output of measurement reports.

The weighing system is powered by an uninterruptible power supply.

Note: In the above, components referred to as 'Trakblaze model ...' may alternatively be known as 'Huoan model ...', and the Trakblaze model LTS10 system may be known as a Huoan model GCU-100BS system.

TEST PROCEDURE

Instruments shall be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.



Date of Approval: 25 August 2010