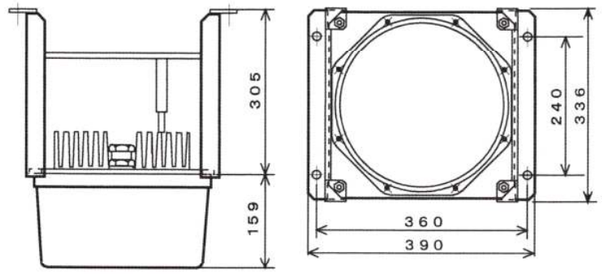
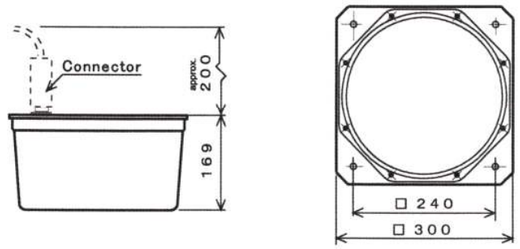
Outline Drawing

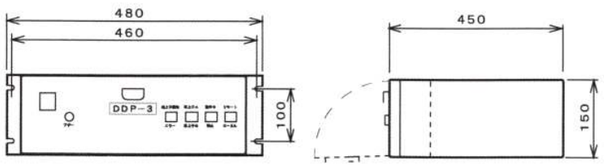
DD Reader : FE-3 (for high speed application) Mass:approx.16kg



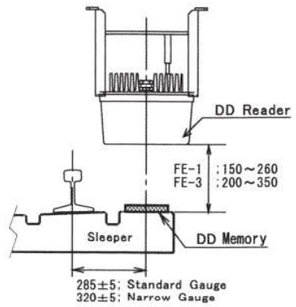
DD Reader : FE-1 (for standard speed) Mass:approx.10kg



DD Signal Processor : DDP-33. DDP-3 Mass:approx.15kg

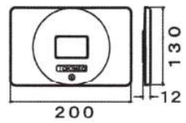


Example Installation Position



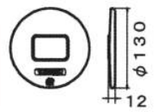
DD Memory

DD-3(for high speed application)
Mass:approx.450g



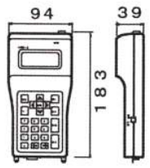
DD-1(for standard speed)
Mass:approx.230g

The DD-1 is a discontinued product.



Handy Reader-Writer

HRW-3 Mass:approx.430g



unit (mm)

⚠ CAUTION | Read this manual carefully and use the product correctly.

Design and specifications are subject to change for improvement without prior notice.

TOKYO KEIKI RAIL TECHNO INC.
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(TOKIMEC RAIL TECHNO changed the name of the company to TOKYO KEIKI RAIL TECHNO on October 1. 2008)

Cat. No. CRPT-09-025-2

Digital Kilo Post

It's "DataDepot"™ !

DD Memory : DD-3
(Digital Kilo Post application)

DD Reader : FE-1
(Digital Kilo Post application)

Products and applications of **the DataDepot System** include:

- **Digital Kilo Post,** which provides accurate kilometer distance correction for track measuring car, etc.
- **MTT's Tamping Tool Control,** which prevents damage to obstacles.
- **Snow-plow's Wing Control,** which prevents collisions with platforms, signal-poles, bridges, and other structures.
- **Other applications** which require unique information at certain points along the track.

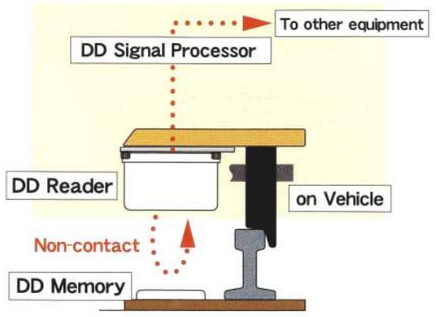
TOKYO KEIKI RAIL TECHNO INC.

The DataDepot System is a **non-contact and high-speed digital identification system** and consists of three items"DD Memory"(DataDepot), "DD Reader", and "DD Signal Processor". These DD Reader and DD Signal Processor attached on a vehicle reads the data memorized in DD Memory(DataDepot) installed on a sleeper.
With the System, the user can write into the DD Memory any data unique to that specific point of track and deposit it at that point.
Vehicles such as measuring car, inspection car, snow-plow, etc., can read this data as they pass over the DD Memory and utilize it for their own purpose. The DD Reader and DD Signal Processor reads and analyzes the information memorized in DD Memory and transfers it to other equipment.
The DataDepot System has already been delivered to almost Japanese railway companies with quantities of more than **100,000 DD Memory.**

DD Reader on vehicle, DD Memory(DD−1)on sleeper

Application on Multiple Tie Tamper

System Structure



Digital Kilo Post - a typical application of the DataDepot System.
DD Memory memorizes the kilometer distance value of the corresponding point.
The measuring car can identify not only the existence of the DD Memory but also the absolute kilometer value at that point which is used to correct its localized data.
The Digital Kilo Post utilizing DataDepot System is quite different from ordinary system.
With the Digital Kilo Post, data is presented as absolute kilometer values and the vehicles do not need to employ delicate detecting windows or kilometer value lookup tables.

Features

- Non-contact and high-speed digital identification system up to 350 km/h.
- DD Memory works without batteries.
- DD Memory is impervious to rain, dirt, grease, snow or ballast.
- Track maintenance is minimized as regular cleaning is not required.
- DD Memory is light and compact making handling and site installation easy.
- Very low electromagnetic power meets EN300330 Class 1 Transmitter limitations.

Composition

Item	Type Ⅰ	Type Ⅱ (High Speed Application)
DD Memory (DataDepot)	DD-1	DD-3
DD Signal Processor	DDP-3	DDP-33
DD Reader	FE-1	FE-3
Handy Reader-Writer(option)	HRW-3	

Test result of RTRI* in Japan

Velocity (km/h)	Readable bits
100	82
150	54
200	40
250	32
300	26
350	18

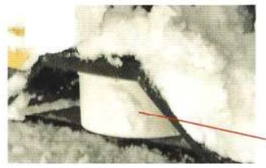
Distance between DD Memory "DD-3" and DD Reader "FE-3" is 350mm (Tolerance; ±0mm)
Tested date; August 20, 2010

＊RTRI : RAILWAY TECHNICAL RESEARCH INSTITUTE

Applications

- Control of kilometer posts information (correction of the vehicle location data) - for rail inspection car, track inspection car, train vibration measurement car, etc.
- Data management of specific points - for rail inspection car, track inspection car, etc.
- Automatic control of instrument - for snow-plow, multiple tie tamper, etc.
- Voice alarm system - safety system for service train, work train.

Application on Multiple Tie Tamper



DD Reader

Application on Snow-plow

Specifications

The DD-1 is a discontinued product.

- DD Memory Performance

Item	Factors	
	DD-1 (with FE-1)	DD-3 (with FE-3)
Communication Distance (including tolerance at installation)	Front Distance: max. 260 ㎜ Tolerance (lateral): ± 50 ㎜ Tolerance (longitudinal): ± 25 ㎜	Front Distance: max. 350 ㎜ Tolerance (lateral): ± 50 ㎜ Tolerance (longitudinal): ± 25 ㎜
Example of readable number of bits	With the above distance, 46 bit at 50 ㎞/h	With the above distance, 62 bit at 130 ㎞/h
Power	without battery	
No. of Readings	Unlimited	
No. of Overwrites	10,000	
Operate temperature	−20 ℃ ~ +60 ℃ (Storage : −40 ℃ ~ +70 ℃)	

Typical data assign for Digital Kilo Post application.

For Controls over Kilometer Post (46bits)	For Point Information (46bits)
Kilometer value A - 40 k 000 ~ 999 k 999 m (unit: 1 m)	*Kilometer value* - 40 k 000 ~ 999 k 999 m (unit: 1 m)
Kilometer value B - 40 k 000 ~ 999 k 999 m (unit: 1 m) * The difference between Kilometer value A and B is maximum 4 k 000 m.	*Point Information* Name of Line : 31 types Type of Line : 15 types Type of Structure : 15 types

- DD Reader Performance

Item	Factors	
	FE-1	FE-3
Frequency and Modulation System	DD Reader → DD Memory : 485 kHz/194 kHz FSK DD Memory → DD Reader : 0−2 MHz DSSS system * meets the EN300330 Class 1 Transmitter limitation	
Temperature for Operation	−20 ℃ ~ +60 ℃ (Storage : −40 ℃ ~ +70 ℃)	
Power Source	Supplied from DD Signal Processor	

- DD Signal Processor Performance

Item	Factors	
Type	DDP-3	DDP-33
Power Supply	AC 220 V ± 10% * DC24 V is optional	
DD Reader	FE-1	FE-3
DD Memory	Readable both DD-1 and DD-3	
Temperature for Operation	−10 ℃ ~ +50 ℃ (Storage : −40 ℃ ~ +70 ℃)	
Relative Humidity	80% RH NO condensation.	

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