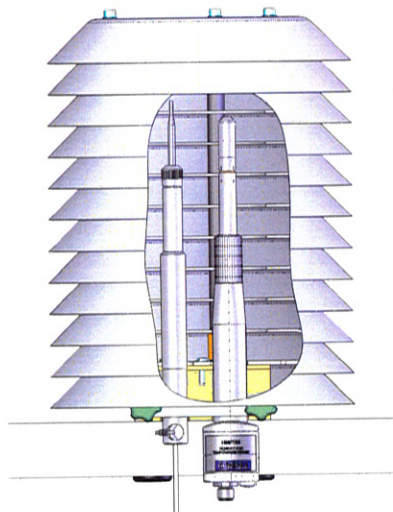
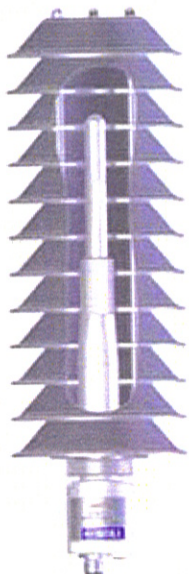


INSTALLATION/INSTALLERUNG/MONTAGE/取付け/ 安装



0801-071

Figure 1 DTR13



0801-072

Figure 2 DTR503

GUARANTEE/GEWÄHRLEISTUNG/GARANTIE/保証/ 保修

Vaisala issues a guarantee for the material and workmanship of this product under normal operating conditions for one (1) year from the date of delivery. Exceptional operating conditions, damage due to careless handling and misapplication will void the guarantee.

Vaisala gewährt eine Garantie auf Material und Verarbeitung dieses Produktes bei Betrieb unter normalen Bedingungen von einem (1) Jahr ab dem Datum der Lieferung. Außergewöhnliche Betriebsbedingungen sowie Beschädigungen durch unsachgemäßen Gebrauch lassen die Garantie erlöschen.

Sur ce produit, Vaisala assure une garantie de 1 an à compter de la date du bon de livraison, pour les défauts imputables à des vices de fabrication ou à des défauts de matériel, à condition que le produit soit utilisé dans les conditions normales. Les défauts causés par les conditions d'utilisation exceptionnelles ainsi que les dégâts dus à une mauvaise utilisation et à la non-observation des prescriptions d'utilisation ne sont pas admis en garantie. Information détaillée sur la garantie est fournie dans la garantie et les conditions normales de vente de Vaisala.

保証

ヴァイサラは通常運転条件のもとで出荷日より 1 年間、製品の材質と組み上げ性能を保証いたします。仕様外の運転操作、不注意な取り扱いによる損傷は保証対象外とさせていただきます。

注意！本機器を高圧下で使用する場合、取付け取外しの際は圧力で本機器が飛び出さないように、圧力を下げるなど、十分ご注意ください。

保修

维萨拉公司保证本产品的材料和工艺合格，在正常使用条件下本产品的保修期为自产品发运之日起一年。不适合的使用环境、错误的操作或应用造成的损坏不在保修范围。

NORTH AMERICAN SERVICE CENTER

Vaisala Inc., 10-D Gill Street, Woburn, MA 01801-1068, USA.
Phone: +1 781 933 4500, Fax: +1 781 933 8029
E-mail: us-customersupport@vaisala.com

EUROPEAN SERVICE CENTER

Vaisala Instruments Service, Vanha Nurmijärventie 21 FIN-01670 Vantaa, FINLAND.
Phone: +358 9 8949 2658, Fax: +358 9 8949 2295
E-mail: instruments.service@vaisala.com

TOKYO SERVICE CENTER

Vaisala KK, 42 Kagurazaka 6-Chome, Shinjuku-Ku, Tokyo 162-0825, JAPAN.
Phone: +81 3 3266 9617, Fax: +81 3 3266 9655
E-mail: aftersales.asia@vaisala.com
ヴァイサラ株式会社 サービスセンター
〒162-0825 東京都新宿区神楽坂六丁目 42 番地 神楽坂喜多川ビル 3F
Tel: 03-3266-9617, Fax: 03-3266-9655
E-mail: aftersales.asia@vaisala.com

BEIJING SERVICE CENTER

Vaisala China Ltd., Floor 2 EAS Building, No. 21 Xiao Yun Road, Dongsanhuan Beilu, Chaoyang District, Beijing, P.R. CHINA 100027.
Phone: +86 10 8526 1199, Fax: +86 10 8526 1155
北京服务中心
维萨拉(北京)气象测量技术有限公司
中国北京朝阳区
东三环北路霄云路21号
大通大厦南楼2层
电话: 86 10 85261199 传真: 86 10 85261155
E-mail: china.service@vaisala.com





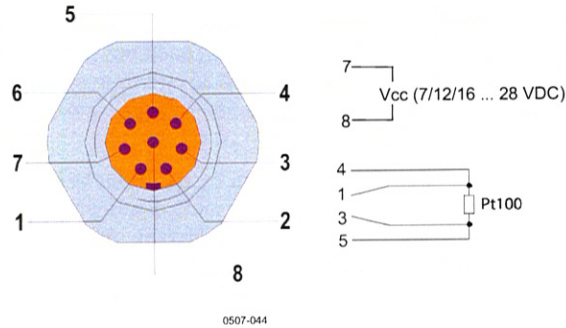
QUICK REFERENCE GUIDE

Vaisala HUMICAP® Humidity and Temperature Probe HMP155



Download
the complete User's Guide from
www.vaisala.com/HMP155

CONNECTOR/ANSCHLUSS/CONNECTEUR/ コネクタ/连接



HMP155 Passive output version

1	PT100	white	weiß	blanc	白	白
2	RH _{OUT}	brown	braun	marron	茶	棕
3	PT100	green	grün	vert	緑	绿
4	PT100	yellow	gelb	jaune	黄	黄
5	PT100	grey	grau	gris	グレー	灰
6	A _{GND}	pink	rosa	rose	ピンク	粉
7	V _{CC}	blue	bleu	bleu	青	藍
8	GND	red	rot	rouge	赤	紅
-	SHIELD	black	schwarz	noir	黒	黒

HMP155 Active output version

1	V _{OUT1}	white	weiß	blanc	白	白
2	RS485-B	brown	braun	marron	茶	棕
3	A _{GND}	green	grün	vert	緑	绿
4	V _{OUT2}	yellow	gelb	jaune	黄	黄
5	-	-	-	-	-	-
6	RS485-A	pink	rosa	rose	ピンク	粉
7	V _{CC}	blue	bleu	bleu	青	藍
8	GND	red	rot	rouge	赤	紅
-	SHIELD	black	schwarz	noir	黒	黒

TERMINAL SETTINGS/TERMINALEINSTELLUNGEN/ RÉGLAGES DE TERMINAL/ターミナルセッティング/ 终端设置

Bauds	Parity	Data bits	Stop bits	Flow control
Bits pro Sekunde	Parität	Datenbits	Stoppbits	Flusssteuerung
Bauds	Parité	Bits de données	Bits d'arrêt	Contrôle de flux
通信速度	パリティ	データビット	ストップビット	フロー制御
波特率	奇偶	数据位	停止位	流量控制
4800	Even	7	1	None

SERIAL COMMANDS/SCHNITTSTELLENBEFEHLE/ COMMANDES SÉRIE/シリアルコマンド/串口命令

R	S	SEND	?	??
Start the outputting	Stop the outputting	Output readings once	Device information	Device information in POLL mode
Datenausgabe starten	Datenausgabe stoppen	Einmalige Datenausgabe	Geräteinformationen	Geräteinformationen im Pollingbetrieb
Démarrer la sortie continue	Arrêter la sortie continue	Sortir une seule donnée	Informations sur l'instrument	Informations sur l'instrument en mode POLL
連続出力の開始	連続出力の中止	測定値を出力	機器に関する情報を出力	POLL 状態の機器に関する情報を出力
开始输出	停止输出	发送	设备信息	POLL 模式的设备信息



CALIBRATION CERTIFICATE

Instrument Humidity and Temperature Probe HMP155
Serial number E0610016
Manufacturer Vaisala Oyj, Finland
Calibration date 27th April 2009
Test procedure Doc210426-A

The analog outputs of the above instrument were measured by using working standards of the manufacturer. The outputs were forced by digital input signals to three output values. The observed values were determined by measuring the voltage over the output terminals. All results are traceable in terms of voltage to NIST.

Analog output channel 1 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.501	0.001	±0.001
2.500	2.500	0.000	±0.001
4.500	4.500	0.000	±0.001

Analog output channel 2 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.500	0.000	±0.001
2.500	2.500	0.000	±0.001
4.500	4.500	0.000	±0.001


Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
HP34970A	EM 12997	2008-11-12	K004-08S793

Uncertainty (95 % confidence level, k=2)
 Voltage ±0.00069V

Ambient conditions / Humidity 18.00 ± 5%RH, Temperature 24.70 ± 2 °C, Pressure 1021.10 ± 20 hPa.

For Vaisala Oyj


 Technician

This report shall not be reproduced except in full, without the written approval of Vaisala.

Doc211861-B

CALIBRATION CERTIFICATE

Instrument Humidity and Temperature Probe HMP155
Serial number E0610016
Manufacturer Vaisala Oyj, Finland
Calibration date 28th April 2009
Test procedure doc216127a

The above instrument was calibrated by comparing the readings of the instrument to working standards of the manufacturer. The reference humidity was calculated from dewpoint temperature and temperature readings with the exception of the driest condition that was measured as relative humidity. Dewpoint temperature was measured with a 373 LHX dewpoint meter. Temperature and relative humidity were measured with two factory working standards. At the time of shipment, the instrument described above met its operating specifications.

The 373 LHX dewpoint meter has been calibrated at Vaisala Measurement Standards Laboratory (MSL) by using a MSL working standard traceable to National Institute of Standards and Technology (NIST). The temperature readings of the factory working standards have been calibrated at MSL by using MSL working standards traceable to NIST. The relative humidity readings of the factory working standards have been calibrated at the Vaisala factory by using a 373 LHX dewpoint meter. The temperature calibration at MSL has been accredited by the FINAS according to the ISO/IEC 17025.

Humidity calibration results

Reference humidity	Reference temperature	Observed humidity	Observed probe temperature	Additional probe temperature	Humidity difference	Permissible difference
%RH	°C	%RH	°C	°C	%RH	%RH
+ 94.1	+ 22.17	+ 94.4	-	+ 22.16	+ 0.3	± 1.7
+ 74.7	+ 22.14	+ 75.2	-	+ 22.14	+ 0.5	± 1.0
+ 53.8	+ 22.13	+ 54.2	-	+ 22.14	+ 0.4	± 1.0
+ 33.0	+ 22.09	+ 33.2	-	+ 22.13	+ 0.2	± 1.0
+ 12.4	+ 22.12	+ 12.7	-	+ 22.14	+ 0.3	± 1.0
+ 0.4	+ 22.12	+ 0.3	-	+ 22.14	- 0.1	± 1.0

Temperature calibration results

Reference temperature	Observed probe temperature	Temperature difference	Additional probe temperature	Temperature difference	Permissible difference
°C	°C	°C	°C	°C	°C
+ 22.14	-	-	+ 22.14	0.00	± 0.10

Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
373 LHX	05-0217	2008-06-16	M-08H032
HMT337 / T	E0840009	2009-03-02	K008-S00485
HMT337 / T	E0840008	2009-03-02	K008-S00484
HMT337 / RH	E0840009	2009-03-26	H33-09131003
HMT337 / RH	E0840008	2009-03-26	H33-09131002

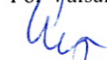
Uncertainties (95 % confidence level, k=2)

Humidity ± 0.6%RH @ 0...40%RH, ± 1.0%RH @ 40...97%RH

Temperature ± 0.10 °C.

Ambient conditions / Humidity 39 ± 5%RH, Temperature 23 ± 1 °C, Pressure 1005 ± 1 hPa.

For Vaisala Oyj




Erja Korhonen

This report shall not be reproduced except in full, without the written approval of Vaisala.

doc216127-a



CALIBRATION CERTIFICATE

Instrument Humidity and Temperature Probe HMP155
Serial number E0610015
Manufacturer Vaisala Oyj, Finland
Calibration date 27th April 2009
Test procedure Doc210426-A

The analog outputs of the above instrument were measured by using working standards of the manufacturer. The outputs were forced by digital input signals to three output values. The observed values were determined by measuring the voltage over the output terminals. All results are traceable in terms of voltage to NIST.

Analog output channel 1 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.501	0.001	±0.001
2.500	2.500	0.000	±0.001
4.500	4.500	0.000	±0.001

Analog output channel 2 calibration results

Output forced to V	Observed output V	Difference V	Permissible difference V
0.500	0.500	0.000	±0.001
2.500	2.500	0.000	±0.001
4.500	4.500	0.000	±0.001

Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
HP34970A	EM 12997	2008-11-12	K004-08S793

Uncertainty (95 % confidence level, k=2)
 Voltage ±0.00069V

Ambient conditions / Humidity 18.00 ± 5%RH, Temperature 24.70 ± 2 °C, Pressure 1021.10 ± 20 hPa.

For Vaisala Oyj


 Technician

This report shall not be reproduced except in full, without the written approval of Vaisala.

Doc211861-B



CALIBRATION CERTIFICATE

Instrument Humidity and Temperature Probe HMP155
Serial number E0610015
Manufacturer Vaisala Oyj, Finland
Calibration date 27th April 2009
Test procedure doc216127a

The above instrument was calibrated by comparing the readings of the instrument to working standards of the manufacturer. The reference humidity was calculated from dewpoint temperature and temperature readings with the exception of the driest condition that was measured as relative humidity. Dewpoint temperature was measured with a 373 LHX dewpoint meter. Temperature and relative humidity were measured with two factory working standards. At the time of shipment, the instrument described above met its operating specifications.

The 373 LHX dewpoint meter has been calibrated at Vaisala Measurement Standards Laboratory (MSL) by using a MSL working standard traceable to National Institute of Standards and Technology (NIST). The temperature readings of the factory working standards have been calibrated at MSL by using MSL working standards traceable to NIST. The relative humidity readings of the factory working standards have been calibrated at the Vaisala factory by using a 373 LHX dewpoint meter. The temperature calibration at MSL has been accredited by the FINAS according to the ISO/IEC 17025.

Humidity calibration results

Reference humidity %RH	Reference temperature °C	Observed humidity %RH	Observed probe temperature °C	Additional probe temperature °C	Humidity difference %RH	Permissible difference %RH
+ 94.1	+ 22.16	+ 94.3	-	+ 22.19	+ 0.2	± 1.7
+ 74.6	+ 22.14	+ 74.8	-	+ 22.18	+ 0.2	± 1.0
+ 53.8	+ 22.12	+ 54.0	-	+ 22.17	+ 0.2	± 1.0
+ 33.0	+ 22.10	+ 33.3	-	+ 22.15	+ 0.3	± 1.0
+ 12.4	+ 22.12	+ 12.7	-	+ 22.16	+ 0.3	± 1.0
+ 0.5	+ 22.11	+ 0.3	-	+ 22.16	- 0.2	± 1.0

Temperature calibration results

Reference temperature °C	Observed probe temperature °C	Temperature difference °C	Additional probe temperature °C	Temperature difference °C	Permissible difference °C
+ 22.14	-	-	+ 22.18	+ 0.04	± 0.10

Equipment used in calibration

Type	Serial number	Calibration date	Certificate number
373 LHX	05-0217	2008-06-16	M-08H032
HMT337 / T	E0840009	2009-03-02	K008-S00485
HMT337 / T	E0840008	2009-03-02	K008-S00484
HMT337 / RH	E0840009	2009-03-26	H33-09131003
HMT337 / RH	E0840008	2009-03-26	H33-09131002

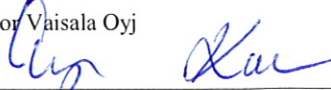
Uncertainties (95 % confidence level, k=2)

Humidity ± 0.6%RH @ 0...40%RH, ± 1.0%RH @ 40...97%RH

Temperature ± 0.10 °C.

Ambient conditions / Humidity 41 ± 5%RH, Temperature 23 ± 1 °C, Pressure 1009 ± 1 hPa.

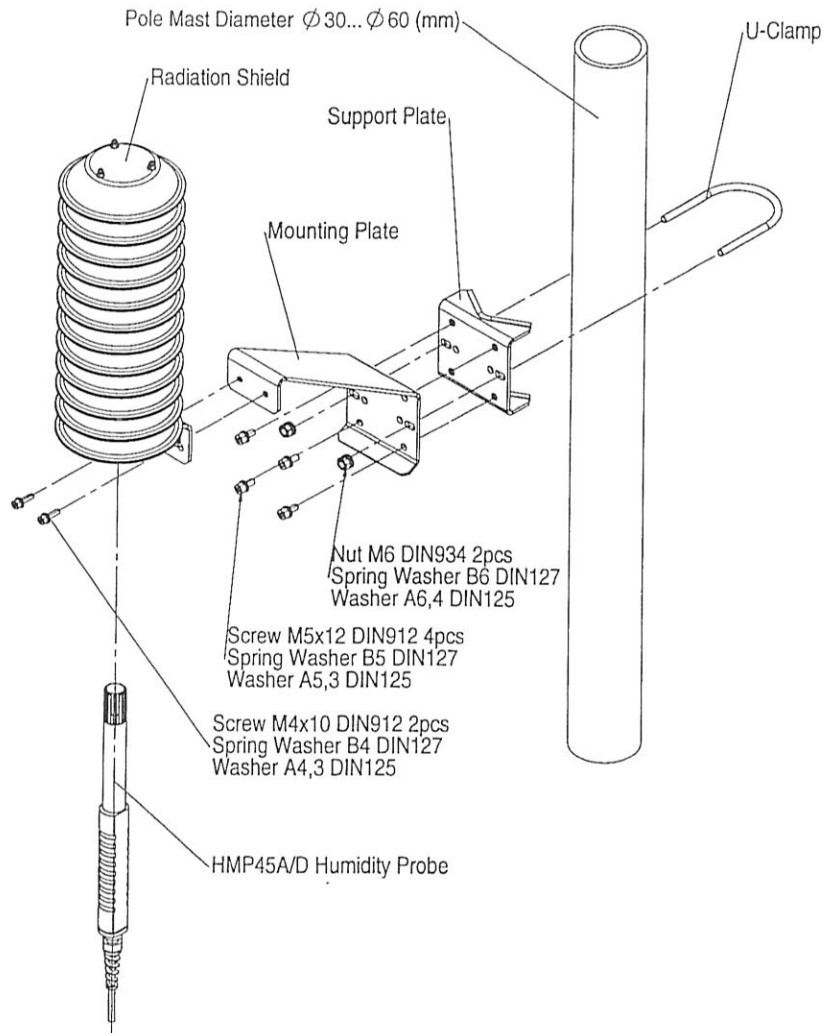
For Vaisala Oyj


 Erja Korhonen

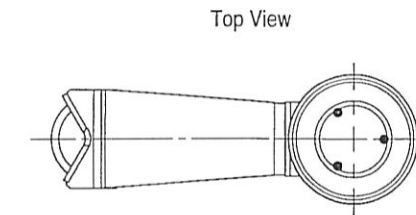
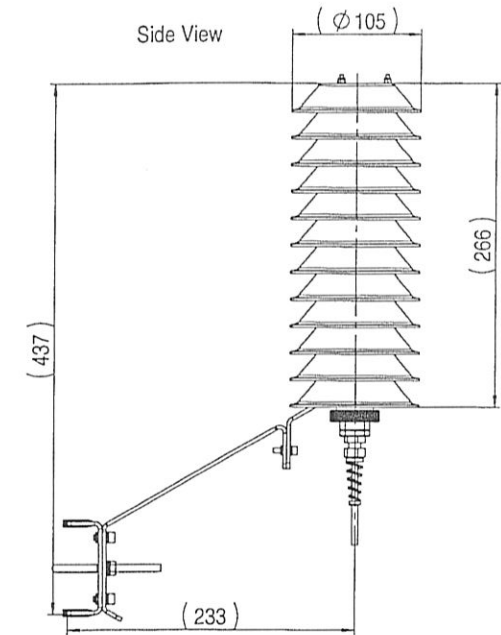
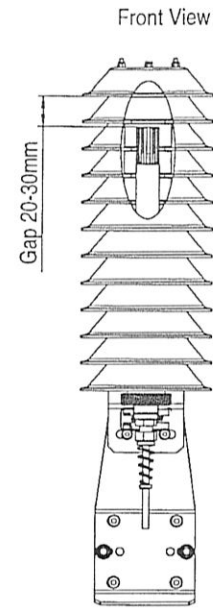
This report shall not be reproduced except in full, without the written approval of Vaisala.

doc216127-a

NOTE: The ideal mounting locations are away from possible moisture sources and away from any source which can alter the ambient temperature, e.g cooling towers. Installation on the wall is also not recommended.



Ltr	Qty	Change	Reason/	ECO no	Design	Date Review	Date Appr



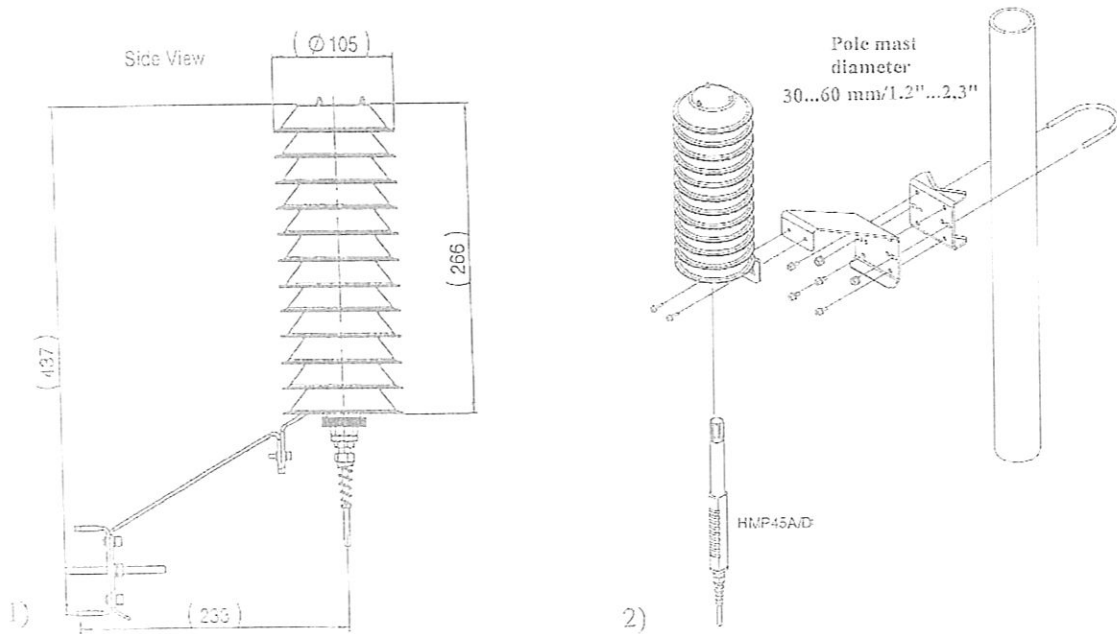
Dimensions in mm.

	Material	Weight	Finish	General tolerance				
				Sheet	1 / 1			
Creator	2001-10-31 PP	Status						
Review	2001-11-12 RA	Title						
Appr	2001-11-12 Pe/Pe	DTR503A RADIATION SHIELD INSTALLATION DRAWING						
Designer	PP					Scale		
Replaces						1:4		
Replaced by							Rev	A

ラジエーション・シールド DTR503A 湿度温度プローブ HMP45A/D 用

DTR503A は自然通風式でメンテナンス不要のラジエーション・シールドです。12枚のプレートを重ねた筒形で、直接的な太陽輻射熱や散乱光、雨水による影響を防ぎます。特殊な設計が施された樹脂製プレートは、優れた耐熱特性を持ち、紫外線による劣化も最低限に抑えられます。プレート表面が輻射熱を反射するよう白色になっているのに対し、裏側は内部の蓄積熱を吸収するよう黒色となっています。これにより、湿度、温度の測定が輻射熱の影響で乱されることはほとんどなくなっています。

DTR503A の取付けは簡単で、様々な場所に取付けられるようになっています。本シールドは垂直のポールにも、水平のビーム、また壁などの平らな表面にも取付けられます。DTR503A には湿度温度プローブ HMP45A/D 取付け用のアクセサリが付いています。



1) DTR503A の構造寸法図(単位mm)

2) DTR503A をポールに取付ける場合

3) DTR503A を水平ビームに取付ける場合

