

Jan Grönblad
Product Line Manager
Vaisala
Helsinki, Finland



Vaisala DRYCAP® Dewpoint
Transmitter DMT340

Versatile Installation Options for Dewpoint Measurement

A wide range of products is available on the dewpoint measurement market. For fixed installation, a product that enables users to install and use the measurement equipment with ease is warmly welcomed.

With the new Vaisala DRYCAP® Dewpoint Transmitter DMT340, the installation and use of the instrument have been streamlined, as has the utilization of the measurement results. The new product incorporates many new features combined with powerful DRYCAP® measurement technology.

Requirements for dewpoint measurement differ greatly depending on application and specific customer needs. However, ease of use and reliable measurements are features welcomed by all. The DMT340 series dewpoint transmitter is the

preferred choice in applications in which the instrument needs to be more than just a dewpoint signaling device. The variety of features helps the user to measure dewpoint easily and reliably, to reinstall the transmitter when necessary, and to use many different sensor heads in different applications.

User interface shows trends and speaks many languages

One new feature is the graphic display that is able to show a graph of historical measurement data from the past few hours to up to one year. This allows

the user to track possible dewpoint changes in the measured application.

The graphic display has a menu-based user interface that speaks many languages. With just a few clicks, the user can change the configuration of the instrument, for example to change the transmitter output scaling, set the alarm levels of the relays, or choose which humidity parameters are displayed.

A selection of probes and installation accessories

The DMT340 series has four different probes for different appli-

cation needs. All the probes are pressure-tight and durable under typical pressures used. For extremes, some of the probes allow installation under very high pressures. Probes can be installed directly into pipelines or chambers of measured gas, or additional probe accessories can be used.

Installation of the DMT348 probe through a ball valve allows the user to remove the probe from the measured application without the need to depressurize (e.g. a compressed air pipeline). The probe is drawn in an upright position with a moveable thread part and the ball valve is closed before the probe is removed.

A leak screw option is helpful when the installation is in a location aside from the main gas flow. The leak screw generates a small flow that brings a sample of the main gas flow to the sensor, improving the response to dewpoint changes.

Two small size probes are available for small space installations, DMT342 with flange and DMT347 with thread installation. Alternative threads are available for DMT347 as with all DMT340 series probes with thread connection. If the system has high pressure or occasional very high pressure peaks, the rugged DMT344 probe with high-pressure rating can be used.

One typical installation in low dewpoint measurement is a sampling system, where the DMT342 probe with sampling cell fits easily due to its compact size. If the application has a duct where dry air is measured, the flange installation fits the probe into the thin wall of a metal duct. Depending on the installation, the user can choose from the small DMT342 probe or the DMT348 probe, which is available in standard length and long versions.

Installing the transmitter housing in various locations is easy

In addition to the versatile probe installation, the transmitter housing has various installation options. With the additional installation base, detachment is quicker than in the basic installation where the housing is installed on a wall. Detaching only requires the release of the locking screws holding the transmitter. Another quick installation method is the DIN-rail, which the transmitter can be snapped into.

In some applications, it may be more suitable to install the transmitter housing in the gas pipeline whose dewpoint is to be measured (e.g. in a compressed air pipeline). This installation is done with an accessory available for pipelines or poles located in horizontal or vertical positions.

The housing itself in the DMT340 series transmitter is IP65/NEMA4X rated and leak tight, but in outdoor installations the rain shield option is recommended to ensure reliable operation in all weather conditions.

Electric connections for quick and easy reinstallation

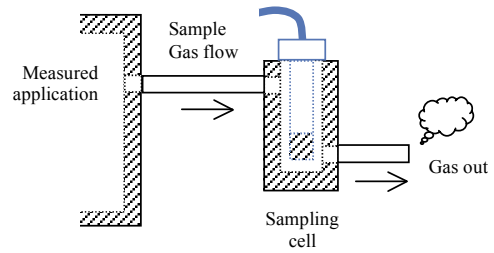
The DMT340 series also offers many options for cabling the dewpoint measurement signal and the low voltage supply. Connectors are recommended. The standard M12 series connectors offer the fastest and easiest cabling reinstallation, within seconds.

Basic cable installation is done through a normal cable gland to a screw terminal inside the transmitter. In harsh environments where cables are installed inside a conduit, an optional conduit fitting can be used. If the cables are hidden behind a wall, the transmitter can be flush mount on the standard electrical mounting box, and the cable led through the hole in the back of the transmitter.

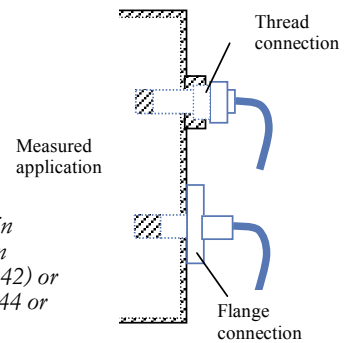
A ready installed mains cable option with different plug options is also available to make the installation as easy as plug and play.

Pioneering technology

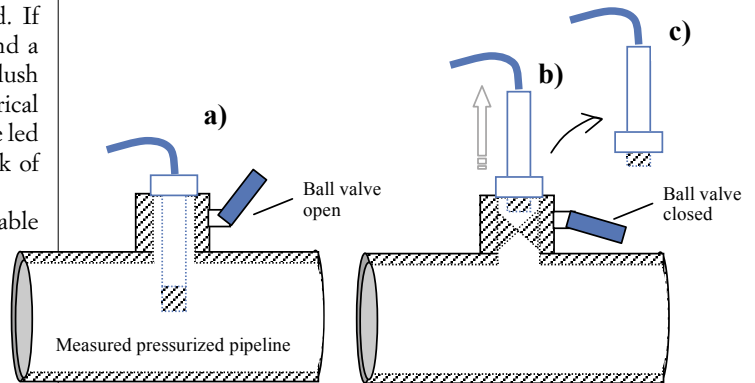
The DMT340 has been designed for easy and versatile installation. Reinstallation can be done quickly and easily. This doesn't mean that DMT340 needs more maintenance than other transmitters, quite the contrary. The Vaisala DRYCAP® dewpoint measurement technology incorporated in the DMT340 series offers good long-term stability, that is, small drift combined with fast response time and durability. This superior and patented technology is the result of Vaisala's pioneering work for more than 30 years in humidity measurement with thin film polymer sensor technology. ●



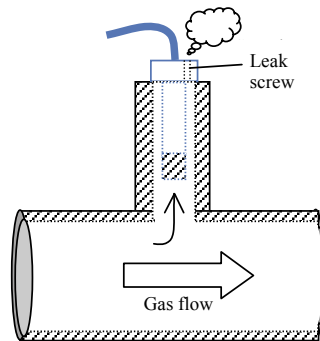
Measuring the gas sample with a sampling cell (DMT342).



Probe installed directly in the measured application with flange (e.g. DMT342) or with thread (e.g. DMT344 or DMT347)



DMT348 installation with the ball valve set. Probe in normal measurement position (a), probe lifted up to close the ball valve (b), after which the probe can be removed from the pressurized pipeline (c).



Installation in T-piece in a pressurized pipeline with the help of leak screw (DMT348). The response time is still reasonable with the help of small flow generated in the part of pipeline with otherwise zero flow.