



**Sensors**



**Switches**



**Controls**

## Application notes



**Application Note : May 2021**

**Market involved : HVAC**

**Product : RSBT 45 mm**

**Customer : OEMs**

**Subject : Compressor real-time monitoring to improve HVAC systems efficiency and to facilitate troubleshooting**

### CUSTOMER ISSUE :

Due to the recent events that have reshaped the way we operate, remote monitoring and troubleshooting activities have increased significantly.

HVAC OEMs are also looking for data extraction from field components to be able to monitor in real-time the status of residential heat pumps as well as industrial air-conditioning and chillers.

Real-time data is used for the calculation of the actual operating efficiency of an HVAC system (COP or EER), to monitor the correct operation of the compressor and also for troubleshooting activities.

### OUR SOLUTION :

The RSBT is a dedicated soft starter for scroll compressors that can also be equipped with a pluggable Modbus RTU module. The RSBT40..VC1HP series works on a standard Modbus protocol that allows the RSBT to exchange important data such as electrical consumption, running hours, number of starts, soft starter status (that can be translated in suitable information for real-time condition monitoring) and/or highlighting deviations in operation.

The communication interface also allows our customers to modify a selected number of parameters such as alarm limits and the disabling of self-learning. Furthermore, with the updated design, the RFBMV10 (alarm relay module) and the RFBMVC1 (Modbus module) are compatible with all the basic models of RSBT. We have also introduced the 24 VAC/DC control versions as standard to have a more complete offering.

### BENEFITS :

- The RSBT 45 mm enables remote and real-time condition monitoring to facilitate technical support activity by the OEMs
- It enables OEMs to monitor critical operating parameters and identify deviations in operation
- Through the electrical parameters data, available from the RSBT, OEMs can quickly estimate the heat pump real-time efficiency (COP)
- The history file data download can help installers in verifying the correct heat pump operation during the first installation
- History file data also enables significant time savings during fault troubleshooting
- The soft starter has less wiring and can be directly controlled via serial communication
- Field customisations of specific parameters are possible through the serial interface