

CBS-F₆ condition-based monitoring solution

Independent solution for SF₆ gas emissions

The CBS-F₆ is a monitoring system for SF₆ single-pressure power circuit breakers rated 38kV and above. ABB's newest SF₆ gas monitor is intended to be used in applications not requiring the full monitoring capability of the existing CBS or CBS-Lite. It provides the same algorithms that are used in the CBS device today, but monitors strictly gas density and will alarm if found to be out of normal range.

The monitor is designed to fit a wide variety of high voltage SF₆ filled equipment including dead tank breakers, live tank breakers, hybrid modules or gas-insulated switchgear. Currently, the rated gas pressure sensors can support a range of 0 to 150 PSIG. Other pressures can be accommodated upon request.

The CBS-F₆ measures SF₆ gas density and provides information on leak rates and gas trending. It monitors up to three separate gas zones and supplies temperature-compensated pressure data either wirelessly to a remote location or locally at the breaker. The unit is housed in a NEMA-1 enclosure and consists of a modular microprocessor unit, up to six sensors, an optional modem and uses existing and proven CBS software.

The CB Insight™ interface software allows a customer to access the device to download information and change the set-point values. Our wireless Asset Insight solution is optionally available to provide web-based access to the CBS-F₆.

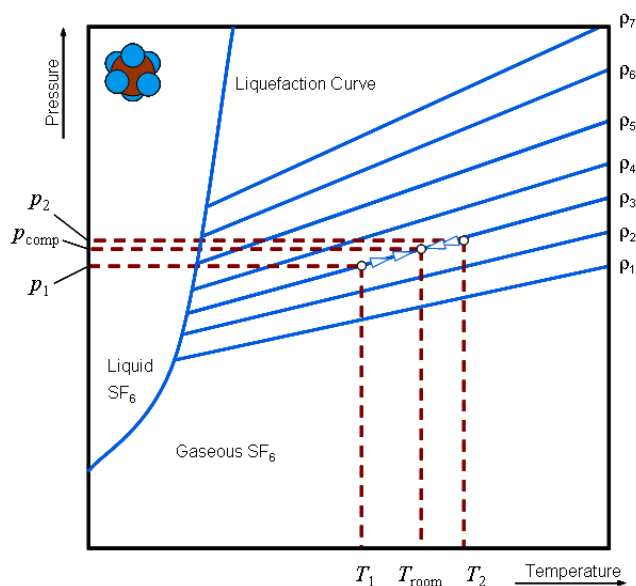
Advantages of the CBS-F₆

- Advanced algorithms for improved accuracy
- Long life and high equipment reliability
- Easy installation
- User friendly software
- Proven technology
- Remote interrogation
- Network Integration
- Wireless communications
- Automatic data collection and storage
- Supports ABB and non-ABB switchgear



Typical gas monitoring uses temperature and pressure to calculate the temperature-compensated pressure. In theory, the temperature-compensated pressure should stay constant unless there is a leak.

The SF₆ State Diagram (below) is valid only for state of equilibrium or very slow temperature changes. ABB's specific algorithms account for dynamic temperature changes to maximize insensitivity, thus supplying a more stable and accurate means of information that minimizes false alarms.



General	
Process	Any type of switchgear using pressurized SF ₆
Enclosure	
Protection level	NEMA-1
Approx. dimensions	7 1/2 x 4 1/2 x 1 1/2
Environmental	
Ambient temperature range	-40° to 70° C
Station Battery Power Supply Input	
Input voltage	125 V nominal (70 - 140 V) 48 V nominal (45 - 55 V) 250 V nominal (200 -250 V)
Low Voltage Power Supply Input	
Input voltage	15 V nominal (15-16 V)
AC Adapter	
Input voltage	120 V rms (max 132 Vrms) 240 V rms (max 264 Vrms)
Output	300 mA @ 15 V
RS232 Port	
Baud rate	DIP sw. selectable 9600 / 19200 / 57600
Protocols	Modbus RTU, DNP3 level 2
Alarm Contacts	
Alarm relays	2 (problem and caution)
Panel Controls and Indicators	
LED's	3 (problem, caution and normal)
LCD	None
Buttons	None
Connector Usage	
Pressure sensor	4 pin (+15 V, current return, NC, NC)
Temperature Input	
Input range	24 to 140 Ω (-40° to 100° C)
Resolution	10 bit
Pressure input	
Input range	4 to 20 mA (0 to 150 psig)
Resolution	10 bit
Bandwidth	2 Hz min

For more information please contact:

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