

Basic Functions:

- ★ Monitor Temperatures on Oil-Filled Transformers
- ★ Control Cooling Fans & Pumps
- ★ Generate Alarms
- ★ Communicate Status and Data to SCADA Network

| Feature | Benefit | How Achieved |
|---|--|--|
| Digital Temperature Readout | 10X analog accuracy, better reliability | Platinum RTD, digital electronics, self diagnostics |
| Flexible Cooling Control, Programmable Alarms | Improved thermal management utilizes maximum transformer capacity & extends transformer life | Multiple sources, adjustable delays, hysteresis, timers, cooling readback, etc |
| Digital Communication | Reduced maintenance cost | Data storage & remote monitoring |
| Low Cost, Easy Installation | Fast payback | NEMA 4X case, probes fit existing wells, replaces up to 4 analog gauges |



Installation:

- Mount Advantage on transformer or control cabinet
- Install probe(s) in transformer thermowell & connect to Advantage
- Wire power, relays, communication, etc
- Enter setup values (if not factory set)

Measurement Method

| For | Simulated Winding Temperature (heated well) | Calculated Winding Temperature (winding current) |
|----------------------|--|---|
| | New Transformer | Available |
| Existing Transformer | Recommended | Available |

Need calibrated thermowell heater

Need hot spot temperature rise from transformer test report

Select Model to measure:

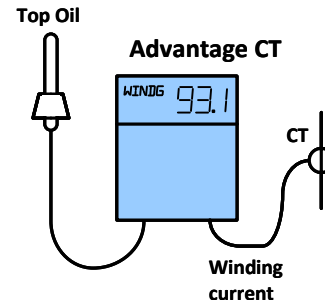
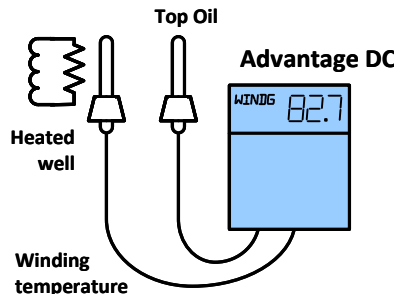
- Oil temperature + 1 winding temperature
- Oil temperature + 2 winding temperatures
- Oil temperature + 3 winding temperatures
- Oil + 1 winding + ambient temperature
- Oil + 3 windings + ambient temperature
- Oil + 1 winding + LTC temperature
- Oil + 3 windings + LTC temperature

- Advantage DC
- Advantage TC
- Advantage SC + Advantage TC
- Advantage TC
- Advantage DC + Advantage TC
- Advantage TC
-

- Advantage CT
- Advantage CT w/ 3-winding option
- Advantage CT w/ 3-winding option
- Advantage CTX
- Advantage CTX w/ 3-winding option
- Advantage CT/LTC
- Advantage CT/LTC w/ 3-winding option

See data sheet for other combinations

Oil Temperature + 1 Winding Temperature:



* Use magnetic sensor for oil or LTC temperature if thermowell not available. Select in RTD PROBES field of P/N.

** Direct connect to winding CT is standard. Use clamp-on transducer to sense winding current on existing transformers. Select in MISCELLANEOUS OPTIONS field of P/N.

Each Weschler Transformer Advantage is built to order, as specified by a 15 digit part number. Use the following information and the configuration guide on the Advantage 3 data sheet to specify a unit for your exact requirements.

Setpoint Relays for cooling control and alarms: choose 6 relays (code H) or 12 relays (code L). Relays are form C (change-over) with selectable non-alarm state (normal or fail-safe). The typical analog gauge has 2 or 4 setpoint switches.

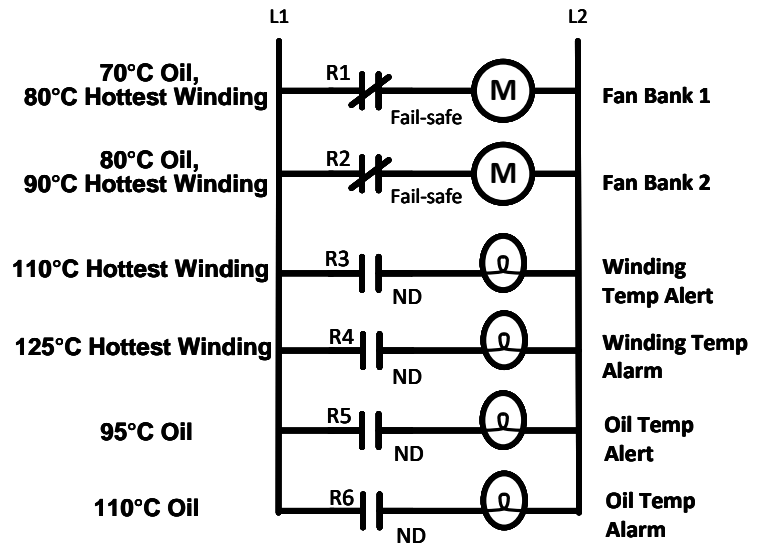
Four switches in an oil gauge and four in a winding gauge can be replaced with six Advantage relays:

- cooling stage 1 (activate on oil or winding temp)
- cooling stage 2 (activate on oil or winding temp)
- oil temp alarm
- oil temp trip
- winding alarm
- winding trip

Use extra relays to activate additional cooling stages, or to alarm on LTC temperature, ambient temperature or cooling stage failure (with cooling readback option).

Any relay can be used to alarm on sensor or internal ETM failure.

Using Hottest Winding parameter, no additional relays are required to monitor three windings on CT, CTX and CT/LTC models :



RTD Probes Choose quantity of each type needed: Thermowell _____ Magnetic _____ Ambient _____ (max 1, 2 or 3 total, depending on model)

Select cable length: 25 ft 50 ft custom _____

For thermowell probes, select probe length to fit well (minimum is well depth plus 2"): 8", 12", or 18"

CT Input On CT, CTX & CT/LTC models: for 5A winding CT secondary, enter code 50. This applies to all winding inputs (Specify 1 or 3 winding inputs under INPUT OPTIONS). For DC and TC models, enter XX.

Power Supply code W gives the most flexibility in options and source voltage. It covers 90-264 vac, 85-300 vdc, and 48vdc±18%.

Analog Retransmit Use scalable mA analog outputs. Choose 0, 2 or 4 channels in SCADA OUTPUT field.

Probe Adapters For thermowell probes, select tip adapter to fit well inside dia.: 3/8", 7/16", 0.490", or 5/8" Also select fitting to match well threads: 7/8" UNF, 1/2" NPT, or 3/4" NPT

Most common thermowell probe is 8" long, 0.49" ID, with 7/8" UNF fitting. If well ID & threads are unknown, order Universal kit to fit all sizes listed here.

Cooling Readback Option to detect fan or pump failure on CT, CTX and CT/LTC models. Order 2 or 5 analog/digital inputs under INPUT OPTIONS (Need 1 input for each monitored cooling stage).

Digital Communication USB local port and wired serial port (RS232/422/485) are standard. ASCII, Modbus and DNP3 protocols are included. Add Fiber serial, Ethernet and Fiber Ethernet under MISCELLANEOUS OPTIONS.

For additional information on selection & configuration, see the Transformer Advantage 3 Data Sheet & Owners Manual (available from weschler.com), or call 440-238-2550 to speak to an Advantage applications specialist.

WT-08c