



## **CTSM AND CTGM SERIES MANUAL TRANSFER SWITCHES**

Some emergency power installations require multiple automatic transfer switches, each feeding a specific load. In many installations where non-critical loads are being served, specifications may call for manual or non-automatic transfer switches. This method is used because operating personnel are present and the loads are not of a critical nature requiring unattended automatic operation.

Because of the less critical function of this equipment, no specific industry requirements have been established. As a result, devices such as double throw disconnect switches have been used. Since the non-automatic transfer switches are part of the emergency power supply system, they should have the same UL 1008 electrical ratings as the automatic transfer switches feeding the more critical loads. In the event of a short circuit, the non-automatic transfer switches must have the same withstand current ratings as the automatic transfer switches and they must be as rugged and dependable.

To meet this need, Caterpillar offers the CTSM and CTGM Series electrically operated, mechanically held non-automatic transfer switches. These units feature the same construction as the CTS Series of automatic transfer switches and are supplied with the same electrical ratings and mechanical features. The manual series is electrically operated by means of push buttons mounted on the switch enclosure or at a remote location. Unlike the above mentioned disconnect switches, the CTSM and CTGM Series offer additional protection by incorporating normal and alternate source voltage sensing relays which will not permit the switch to be manually transferred unless the source to which it is being transferred is at 90% of its rated voltage. In addition, the CTSM and CTGM Series are tested and listed per UL 1008 standards. Double throw disconnect switches are not listed to this critical standard.

## CTSM AND CTGM SERIES NON-AUTOMATIC TRANSFER SWITCH FEATURES

- UL, CSA and IEC Listed
- Amperage sizes: 40, 80, 100, 150, 200, 225, 260, 400, 600, 800, 1000, 1200, 1600, 2000, 3000, 4000
- Poles: 2, 3 or 4
- Available for operation on all standard voltage systems
- Withstand Current Ratings: Same as CTS Series automatic transfer switches
- Available in standard, delayed and closed transition versions
- Bypass-Isolation units (CBTS Series) also available
- May be supplied in NEMA 1, 3R, 4, 12 enclosures or open type

### STANDARD ACCESSORIES

- A** Auxiliary Contacts:
  - A3** Closed when switch is in emergency position
  - A4** Closed when switch is in normal position
- L** Indicating LED Pilot Lights:
  - L1** Indicates switch in emergency position
  - L2** Indicates switch in normal position
  - L3** Indicates normal source available
  - L4** Indicates emergency source available
- YE** Pushbutton to emergency
- YN** Pushbutton to normal

### OPTIONAL ACCESSORIES FOR CTGM

- E** Engine Start Contact
- P1** Time Delay to Engine Start: Standard setting 3 seconds, adjustable 0-10 seconds
- U** Time Delay for Engine Cool Down: Allows engine to run unloaded after switch retransfer to normal; standard setting 5 minutes, adjustable 0-5 minutes

### OPTIONAL ACCESSORIES FOR CTSM

- A** Auxiliary Contact
  - A1** Operates on normal line failure (SPDT)
  - A1E** Operates on emergency line failure (SPDT)
- K** Frequency Meter
- M** Meters:
  - M1** Ammeter: Single phase
  - M2** Ammeter: Three phase with phase selector switch
  - M3** Voltmeter: Single phase
  - M4** Voltmeter: Three phase with phase selector switch
- S1** Three-position selector switch (Stop/Test/Automatic)

### SUGGESTED SPECIFICATIONS

Please refer to Caterpillar's complete series of transfer switch specifications for your exact configuration. The following is a suggested addendum to those guide specs.

The manual (non-automatic) transfer switch(es) shall be of the same electrical ratings, withstand current ratings and main contact construction as the automatic transfer switch(es).

Switch(es) shall be \_\_\_\_\_ amp, \_\_\_\_\_ volt, \_\_\_\_\_ poles as indicated on the drawings.

Accessory features shall include: (*refer to list on previous page*). Switch(es) shall be UL 1008 listed and shall be Caterpillar CTSM Series (or CTGM as applicable) or approved equal.

***Many additional accessories are available to meet installation requirements. Contact your Caterpillar dealer with your project needs.***