

# Fault Current Detection

## INTERNAL CURRENT TRANSFORMERS

G&W Trident switchgear is equipped with internally molded current transformers (CTs), which are completely contained within the switch module. These CTs provide the relay with a  $\pm 1\%$  accuracy input for all currents within the minimum and maximum pickup.

## MINIMUM PICKUP CURRENTS

The tables below compare the minimum and maximum pickup levels depending on the current transformer ratio used with the specified relay. The G&W Type VI controls are excluded and can be found in the catalog.

### SEL 751

| Protection elements | Current Input to relay: |     | Corresponding Primary Current CT set to: |        |             |        |             |       |             |       |
|---------------------|-------------------------|-----|--|--------|-------------|--------|-------------|-------|-------------|-------|
|                     | Secondary pickups       |     | 1000:1 ratio                             |        | 500:1 ratio |        | 400:1 ratio |       | 200:1 ratio |       |
|                     | Min                     | Max | Min                                      | Max    | Min         | Max    | Min         | Max   | Min         | Max   |
| min. 50P (A)        | 0.05                    | 20  | 50                                       | 20,000 | 25          | 10,000 | 20          | 8,000 | 10          | 4,000 |
| min. 51P (A)        | 0.05                    | 4.8 | 50                                       | 4,800  | 25          | 2,400  | 20          | 1,920 | 10          | 960   |

### SEL 751A

| Protection elements | Current Input to relay: |     | Corresponding Primary Current CT set to: |        |             |        |             |       |             |       |
|---------------------|-------------------------|-----|--|--------|-------------|--------|-------------|-------|-------------|-------|
|                     | Secondary pickups       |     | 1000:1 ratio                             |        | 500:1 ratio |        | 400:1 ratio |       | 200:1 ratio |       |
|                     | Min                     | Max | Min                                      | Max    | Min         | Max    | Min         | Max   | Min         | Max   |
| min. 50P (A)        | 0.10                    | 20  | 100                                      | 20,000 | 50          | 10,000 | 40          | 8,000 | 20          | 4,000 |
| min. 51P (A)        | 0.10                    | 3.2 | 100                                      | 3,200  | 50          | 1,600  | 40          | 1,280 | 20          | 640   |

### SEL 700GW, SEL 787

| Protection elements | Current Input to relay: |      | Corresponding Primary Current CT set to: |        |             |       |             |       |             |       |
|---------------------|-------------------------|------|--|--------|-------------|-------|-------------|-------|-------------|-------|
|                     | Secondary pickups       |      | 1000:1 ratio                             |        | 500:1 ratio |       | 400:1 ratio |       | 200:1 ratio |       |
|                     | Min                     | Max  | Min                                      | Max    | Min         | Max   | Min         | Max   | Min         | Max   |
| min. 50P (A)        | 0.10                    | 19.2 | 100                                      | 19,200 | 50          | 9,600 | 40          | 7,680 | 20          | 3,840 |
| min. 51P (A)        | 0.10                    | 3.2  | 100                                      | 3,200  | 50          | 1,600 | 40          | 1,280 | 20          | 640   |

### SEL 351, SEL 351R, SEL 451, SEL 487B, SEL 487E, SEL 651RA, SEL651R

| Protection elements | Current Input to relay: |     | Corresponding Primary Current CT set to: |        |             |        |             |       |             |       |
|---------------------|-------------------------|-----|--|--------|-------------|--------|-------------|-------|-------------|-------|
|                     | Secondary pickups       |     | 1000:1 ratio                             |        | 500:1 ratio |        | 400:1 ratio |       | 200:1 ratio |       |
|                     | Min                     | Max | Min                                      | Max    | Min         | Max    | Min         | Max   | Min         | Max   |
| min. 50P (A)        | 0.05                    | 20  | 50                                       | 20,000 | 25          | 10,000 | 20          | 8,000 | 10          | 4,000 |
| min. 51P (A)        | 0.05                    | 3.2 | 50                                       | 3,200  | 25          | 1,600  | 20          | 1,280 | 10          | 640   |

50P: Instantaneous/Definite-Time Overcurrent Elements, Phase

51P: Time Overcurrent Elements, Phase