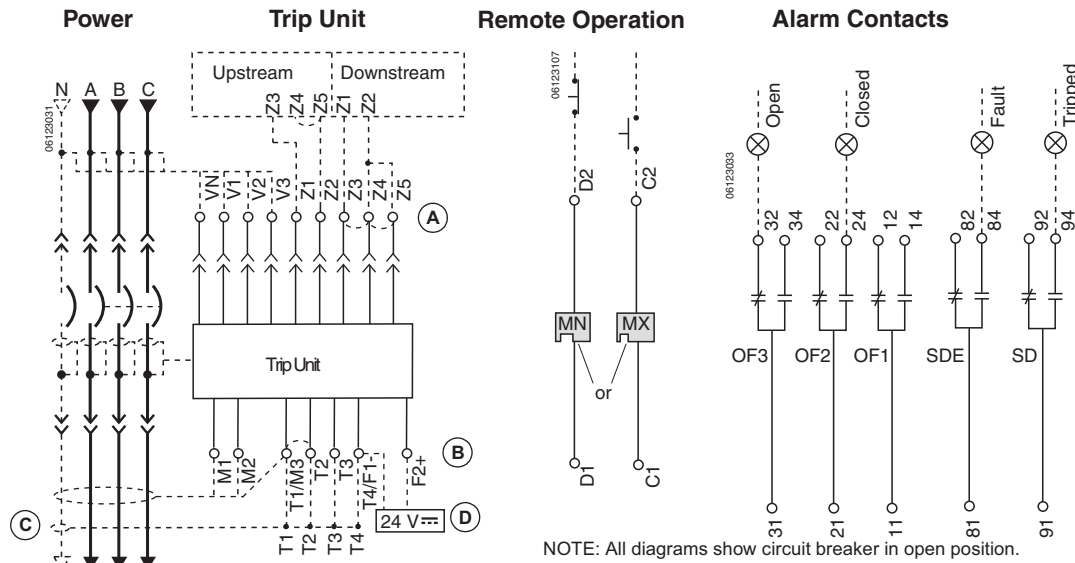


PowerPact™ M-, P- and R-Frame, and Compact™ NS630b–NS3200 Circuit Breakers

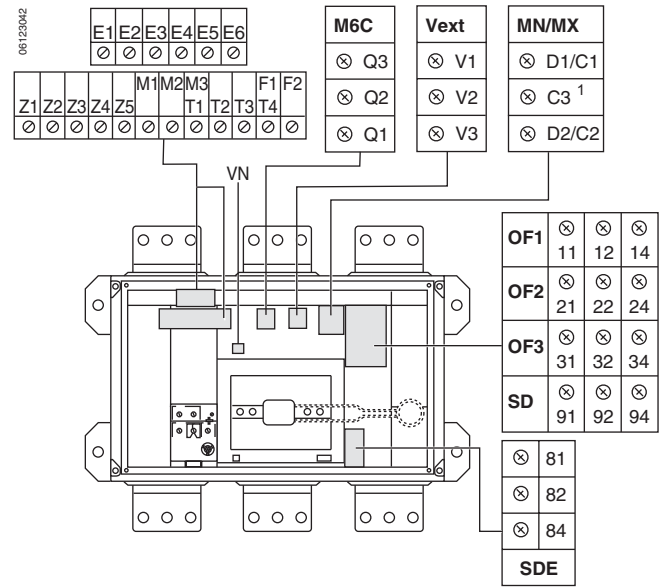
Section 5—PowerPact R-Frame Circuit Breakers

Figure 4: Accessory Control Wiring Diagrams



NOTE: All diagrams show circuit breaker in open position.

- A—Do not remove factory-installed jumpers between Z3, Z4 and Z5 unless ZSI is connected.
- B—Do not remove factory-installed jumper between T1 and T2 unless neutral CT is connected. Do not install jumper between T3 and T4.
- C—For proper wiring of neutral CT, refer to Instruction Bulletin 48041-082-01 shipped with it.
- D—24 Vdc power supply for trip unit must be separate and isolated from 24 Vdc power supply for communication modules.



Trip Unit Type			Connector	Description
Basic	A	P		
—	•	•	Com: E1-E6	Circuit breaker communication module E1 = +24 Vdc E2 = Common E3 = Out - E4 = Out + E5 = In - E6 = In +
—	•	•	Z	Zone-selective interlocking Z1 = ZSI OUT signal Z2 = ZSI OUT Z3 = ZSI IN signal Z4 = ZSI IN short-time delay Z5 = ZSI IN ground fault
—	•	•	T	External neutral sensor
—	•	•	M	Modified differential ground fault (MDGF)
—	•	•	F	24 Vdc external power supply
—	—	•	Vn ²	External neutral voltage takeoff
—	—	•	M6C: Q1, Q2, Q3	6 programmable contacts 24 Vdc external power supply required
—	—	•	V1, V2, V3	External phase voltage takeoff

Connector	Recommended Wire Size
V1, V2, V3, Vn	22–16 AWG (0.3–1.5 mm ²)
E1–E2	22 AWG (0.3 mm ²) MIN shielded pair cable or twisted pair copper wires
T	22 AWG (0.3 mm ²) stranded shielded cable
M	Refer to MDGF instructions
Z1–Z5	22–18 AWG (0.3–0.8 mm ²)
OF, SD, SDE	18–16 AWG (0.8–1.5 mm ²)
MN, MX	18–14 AWG (0.8–2.5 mm ²)
F	Size per aux 24 Vdc power supply
E3–E6, Q1, Q2, Q3	22 AWG (0.3 mm ²) shielded twisted pairs with drain (Belden 8723 or equal) ³

¹ C3 terminal is not used.
² Neutral voltage takeoff supplied as flying lead.

Function	Connector	Description
Auxiliary Contacts	OF	Open/Closed circuit breaker or switch position contacts
	SD	Bell alarm
	SDE	Electrical fault alarm contact
Remote Operation	MN	Undervoltage trip device
	MX	Shunt trip