

DigiGear®

Medium Voltage Switchgear

AMI Automation, now part of Resonac, is a global leader in automation and control solutions. We specialize in designing, manufacturing, and implementing innovative technologies to enhance process efficiency across industries such as steel, mining, cement, pulp & paper, and oil & gas.

DigiGear®

No external surge suppressors are required with Medium Voltage Vacuum Contactors. Special main contact materials minimize chopping currents in our compact and lightweight design delivering optimal electrical performance. Using a vacuum bottle system design contactors are suitable for high-dust areas and increase longevity while decreasing maintenance requirements. MV vacuum contactors offer a wide margin of protective coordination with any type of power fuse, increase electrical safety and reliability, and deliver high interrupting performance.

Ratings:

- ▶ Range Supply Voltage: 2.4 to 6.6 KV (7.2 kV)
- ▶ Operational Current: 400 A / 720 A
- ▶ Interrupting Current: up to 7200 A
- ▶ Peak Whitstand current: up to 20 kA
- ▶ Whitstand overload current: up to 4320 for 30 seconds / 10,800 for 1 second
- ▶ Short Circuit Current: 50 kA (120 kA peak)
- ▶ Impulse whitstand: 60 kV

Features:

- ▶ Insulating barrier separates low and high voltage parts.
- ▶ Environment-resistant: Ideal for use in high dust areas; switching arc is contained within vacuum bottle system design, shielding main contacts.
- ▶ Reduced maintenance: Vacuum bottle contacts have long life with virtually no maintenance.
- ▶ No external surge protection: Special main contact materials minimize chopping current; no surge suppressor/arrester required except for special applications designed for safety: high & low voltage parts are totally separated by insulated barrier (non-flammable molded frame).
- ▶ Conformity Industrial Standards: Conforms to latest International Standards such as UL, CSA, AS, BS, NEMA, IEC60470 (2000).
- ▶ Electronic-Control Drive unit: All contactors include electronic control of operating coil which offers wide control voltage of 100 to 240 VAC & 100 to 250 VDC, anti-chopping feature reduce power consumption.
- ▶ Electrically held or latched-type versions (Medium Voltage Models) designed for longer wear: Unique vertical magnetic arc dispersion system, USA patent.



2.3 - 6.6 kV 400 A unit



2.3 - 6.6 kV 720 A unit

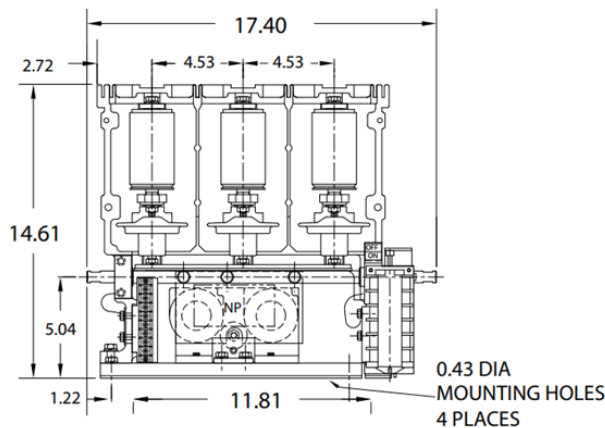
Isolation Switch

Power cells are UL listed. This compact, front-accessible design can be used in either motor or distribution applications (2300 to 6600 V, 7200 V maximum).

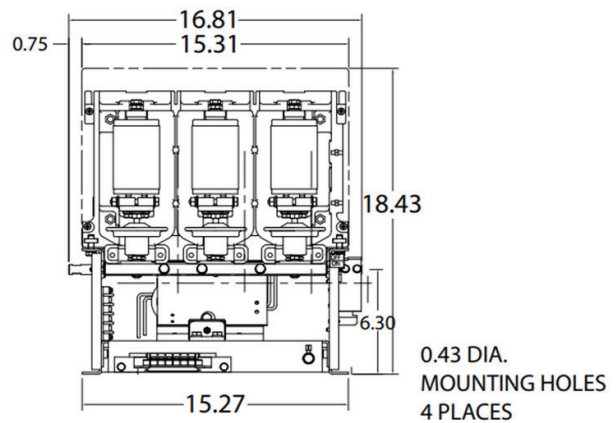
Power cells are designed to replace existing air contactors or old vacuum contactor applications when used for motors or small distribution feeders. This kit provides state-of-the-art Toshiba vacuum technology, a patented bolt-pressure isolation switch. Customers can use their existing standard cubicles, wiring methods, and components with these power cells, allowing for valuable real-estate and labor dollars to be saved.

Standard Features:

- ▶ Medium Voltage Vacuum contactor, 400 A
- ▶ Draw-Out or Fixed-Type
- ▶ Patented, Bolted Pressure-Isolation Switch
- ▶ Less than 24" wide, 29.3" high, less than 33" deep
- ▶ Available with or without Main Power Fuse-Clips (single or double-barrel)
- ▶ Front-Accessible
- ▶ Electrically Held or Latched-Type versions
- ▶ Visible, Bolted Pressure, Isolation Switch features
- ▶ Less resistance
- ▶ Less wear
- ▶ No insertion pressure
- ▶ Mechanical Interlocking System



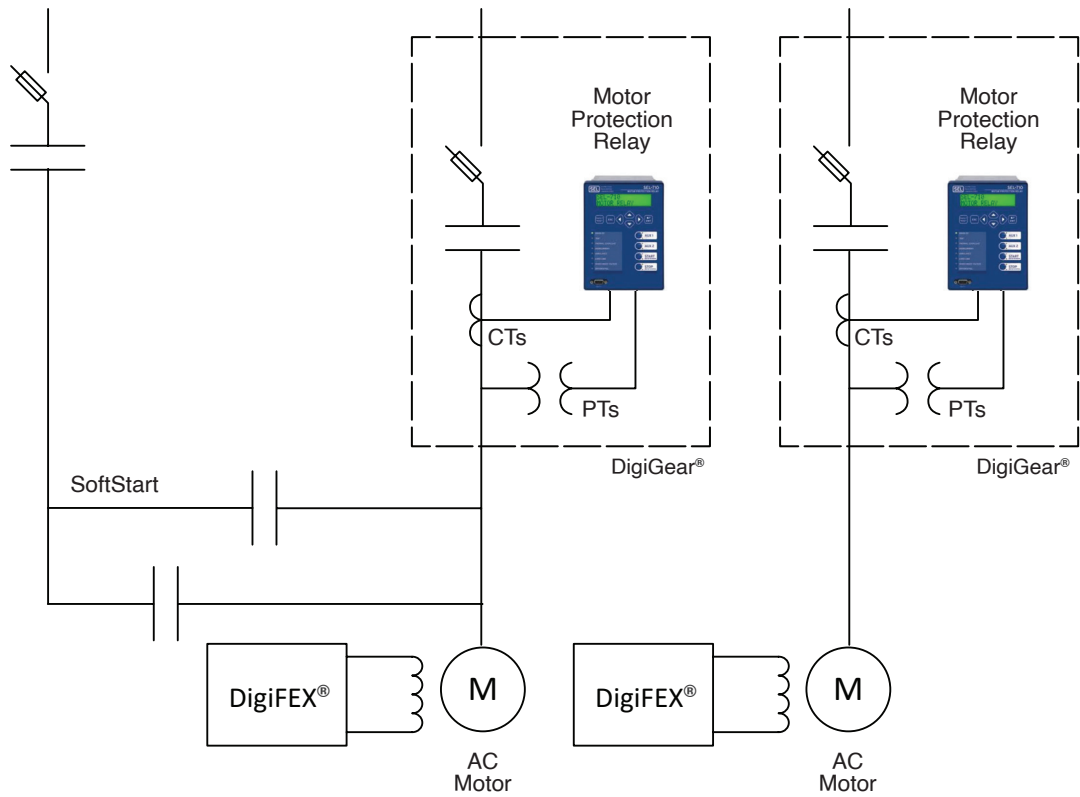
400 Amp Unit



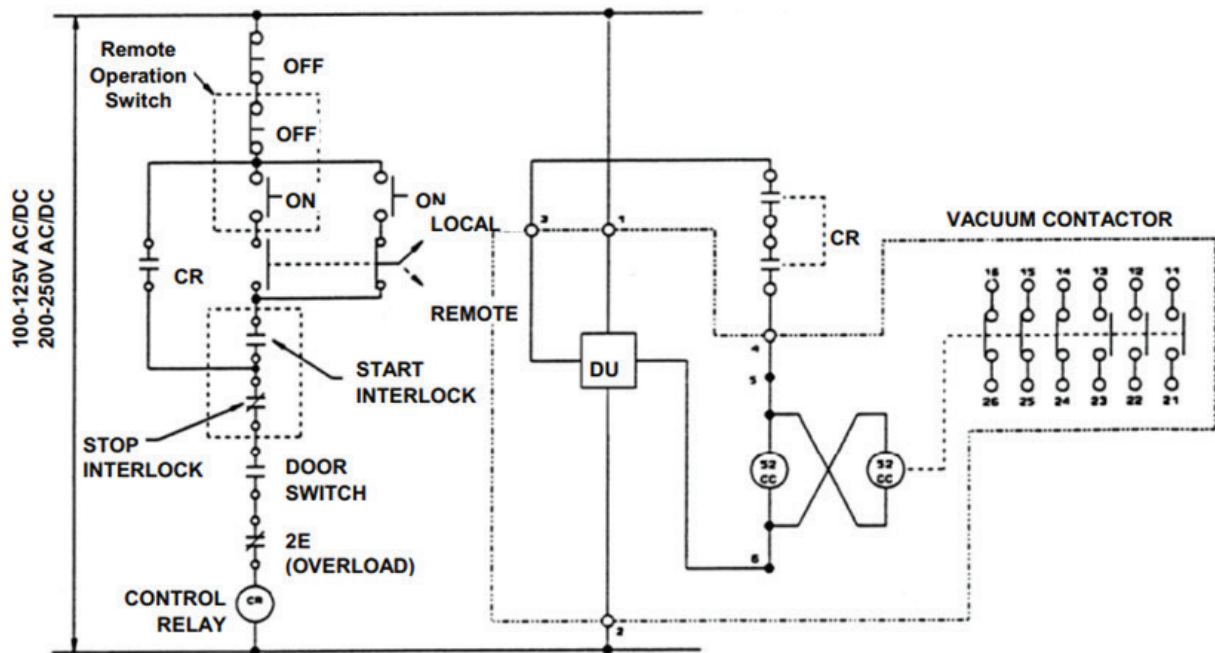
720 Amp Unit

Application

Medium Voltage



Standard Operation Circuit-Typical



Technical Data

Model		DigiGear 1		DigiGear 2	
Rated Supply Voltage (Rated Maximum Voltage)		2.4 to 6.6 KV(7.2kV)			
Operational Current		400A		720A	
Rated Thermal Current		450A		800A	
Interrupting Current		700A@5Kv (4500 A @ 7.2 Kv)		7200A	
Peak Withstand Current		5.8 kA		20 kA	
Class E1 MVA		29/60/54 (2400 V/5000 V/6900V)		30/62/86 (2400 V/5000 V/6900V)	
Class E2 MVA		200/400/600 (2400 V/5000 V/6900 V)		200/400/600 (2400 V/5000 V/6900 V)	
Withstand Overload Current		2400 A for 30 seconds 6000 A for 1 Second		4320 A for 30 seconds 10,800 A for 1 Second	
Short Circuit Current (E2)		50 kA (130 kA Peak) See Coordination Below		50 kA (130 kA Peak) See Coordination Below	
Coordination W/Current Limiting Fuses		Peak Let-Thru 65kA Max.		Peak Let-Thru 85kA Max.	
Class E1 MVA		1200/Hr	300/Hr	60/Hr	300/Hr
Class E2 MVA		2.5 Million0	.25 Million	1 Million0	.20 Million
Electrical Life		0.25 Million0		.20 Million	
Impulse Withstand					
Dielectric Strength		18.2kV, 1 Minute		18.2kV, 1 Minute	
Pick-up Voltage		85% Hot to 70% Cold AV or DC			
Drop-out Voltage		70% Hot to 60% Cold AV or DC			
Tripping Voltage		60% or Less of Coil Rating DV(Cold)			
Control Voltage	Standard	120 VAC, 50/60 Hz		115 to 240 VAC / 125 to 250 VDC	
	Optional	240 VAC / 125 VDC / 250 VAC			
	Tripping	24.32.48.125 / 250VAC		24.32.48.125 / 250VAC	
Control Circuit Buden	Closing	5.4 A Peak @120VAC 670 VA (AC), 700 W (DC)		6 to 7.0A @ 120VAC 840 VA (AC), 875W (DC)	
	Holding	0.12 A Avg. @120VAC 85 VA(AC) 85 W (DC)		0.8 to 1A @120VAC 49VA	
	Tripping	4.8 Peak @125 VDC			
Auxiliary Contact Ratings	Arrangement	3NO-3NC2	NO-2NC	3NO-3NC2	NO-2NC
	Current	40A(A600)			
	Voltage	600 V Maximum, 48 V Minimum			
	AC	720 A (P.F. 0.35)			
	DC	60 W (L/R 150ms)			
Application Conditions	Altitude w/o Derating	Lower Than 3300 ft. (1000m)			
	Ambient	-5 to 40 c			
	Relative Humidity	45 to 85%			
	Vibration	Maximum 20 Hz to 1 G			
	Shock	Maximum 30 G			

Motor Protection

The SEL-710 Motor Protection Relay features the industry's most accurate motor protection together with settings, mounting, and communications options designed for easy application. The SEL-710 with the AccuTrack Thermal Model determines the longest safe starting time (no speed switch needed) and reduces the wait time between motor starts up to 33 percent. Choose from seven communications protocols, including Ethernet, Modbus, and IEC 61850 for fast integration into control systems.

The Motor Protection Relay provides an exceptional combination of protection, monitoring, control, and communication in an industrial package.

Standard Motor Protection and Control Features. Protect low or medium voltage three-phase motors with an enhanced thermal model that includes locked rotor starts, time-between-starts, starts-per-hour, antibackspin timer, motor coast time, load loss, current unbalance, load jam/stalled rotor, breaker/contactors failure, frequency, and overcurrent including phase, negative-sequence, residual ground instantaneous, and inverse-time elements. Implement load control, star-delta starting, forward/reverse start control, and two-speed control.

Optional Protection Features. voltage and differential current inputs to include rotor slip calculation, differential overcurrent (87M), undervoltage, overvoltage, positive temperature coefficient (PTC) thermistor over-temperature, underpower, reactive power, phase reversal, power factor, loss-of-potential, and RTD-based protection. As many as 10 RTDs can be monitored using an internal RTD card or as many as 12 RTDs when using an additional RTD Module.

Operator Controls. Start and stop the motor easily with four programmable front-panel push buttons, each with two LEDs. Also, the unit provides 32 local and 32 remote control bits to help manage relay operations.

Relay and Logic Settings Software. Reduce engineering costs for relay settings and logic programming by using Software. Tools make it easy to develop control equations. Use the built-in phasor display to verify proper CT polarity and phasing.

DigiGear® unit can also be supplied with other types of protection relays. Please ask for details.

DigiGear® and DigiFEX® are trademarks of AMI International SAPI de CV. All other products mentioned are registered trademarks and/or trademarks of their respective companies. All specifications in this document are subject to change without notice.