

VL (AZ8)

SPECIFICATIONS

1. Rating

1) Standard type

Rated control voltage	Load	Resistive load (cos φ ≈ 1)	Inductive load (cos φ ≈ 0.4)
125V AC		5A	3A
250V AC		5A	2A
125V DC		0.4A	0.1A

2) Types with neon lamp and with LED

Types	Rated control voltage	Resistive load (cos φ ≈ 1)	Inductive load (cos φ ≈ 0.4)
With Neon lamp	125V AC	5A	3A
	240V AC	5A	2A
With LED	24V DC	3A	—

2. Characteristics

Contact arrangement	1 Form A 1 Form B		
Initial contact resistance, max.	15mΩ (By voltage drop 6 to 8V DC at rated current)		
Contact material	Gold clad silver alloy (cadmium free)		
Initial insulation resistance (At 500V DC)	Min. 100MΩ		
Initial breakdown voltage	1,000Vrms for 1 min Between non-consecutive terminals 2,000Vrms for 1 min Between dead metal parts and each terminal 2,000Vrms for 1 min Between ground and each terminal		
Shock resistance max.	In the free position	Max. 98m/s ² {10G}	
	In the full operating position	Max. 294m/s ² {30G}	
Vibration resistance	Standard type: Max. 55Hz Type with indicator: 10 to 50Hz, double amplitude of 1.5mm		
Expected life (Min. operations)	Mechanical	10 ⁷ (at 120 cpm)	
	Electrical	3×10 ⁵ (at rated resistive load) 5×10 ⁵ (Magnetic contactor FC-100 200V AC load)	
	Life of lamp	Min. 2×10 ⁴ hours (Neon lamp type)	
Ambient temperature/Ambient humidity	-20 to +60°C -4 to +140°F/Max. 95%		
Max. operating speed	120 cpm		

3. EN60947-5-1 performance

Item	Rating
Rated insulation voltage (Ui)	250VAC
Rated impulse withstand voltage (Uimp)	2.5kV
Switching overvoltage	2.5kV
Rated enclosed thermal current (Ithe)	5A
Conditional short-circuit current	100A
Short-circuit protection device	10A fuse
Protective construction	IP64
Pollution degree	3

4. Operating characteristics

Characteristics	O.F. (N {gf}) max.	R.F. (N {gf}) min.	Pretravel (P.T.), max. mm inch	Movement Differential (M.D.), max. mm inch	Overtravel (O.T.), min. mm inch	Totaltravel (T.T.), min. mm inch
Actuator						
Push plunger	8.83 {900}	1.47 {150}	1.5 .059	0.7 .028	4 .028	5.5 .217
Roller plunger						
Cross roller plunger						
Roller arm	5.88 {600}	0.49 {50}	20°	10°	75°	95°
Adjustable roller arm	7.84 {800}~3.35 {342}	0.49 {50}~0.21 {21}	20°	10°	75°	95°
Adjustable rod	7.84 {800}~1.99 {203}	0.49 {50}~0.12 {12}	20°	10°	75°	95°
Flexible rod spring wire	0.88 {90}	—	30 (1.181)	—	20 (.787)	50 (1.969)

*Characteristics measured at bent condition: min. radius 100mm 3.937inch.

Notes) 1. Keep the total travel values in the specified range. Otherwise the actuator force may rise to several times the operating force, resulting in a mechanical failure or much shorter service life.

2. For the operating characteristics, refer to the TECHNICAL INFORMATION.

5. Protective construction

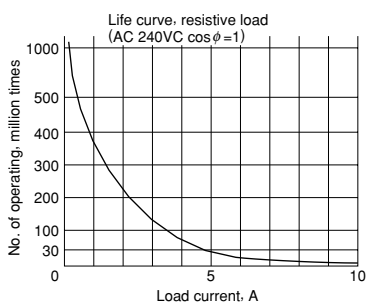
Protective construction	VL Mini limit switch	VL Mini limit switch (with lamp)
IEC		
IP60	○	○
IP64	○	○

6.Lamp rating

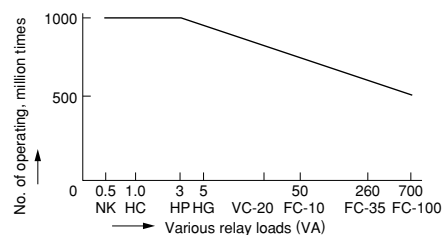
Types	Rated operating voltage	Operating voltage range	Internal resistor
Neon lamp	100 to 200V AC	80 to 240V AC	120kΩ
	6V DC	5 to 15V DC	2.4kΩ
LED	12V DC	9 to 28V DC	4.7kΩ
	24 to 48V DC	20 to 55V DC	15kΩ

DATA

1. Life curve



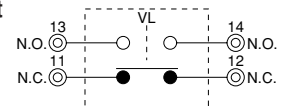
2. Actual load life curve (relay coil load)



Note: The FC magnetic contactor series is 200V AC. The NK is 2 Form C 24V DC type.

WIRING DIAGRAM

Output circuit



Terminal

