



Product type designation	Product designation			Power contactor
Number of poles	Product type designation			BFD150
Rated insulation voltage Ui IEC/EN V 1000 Rated impulse withstand voltage Uimp kV 8 Operational frequency min Hz 25 max Hz 400 4 165 IEC conventional free air thermal current lth a 165 6 7 25 10 0 4 165 6 6 6 7 25 10 0 4 165 6 8 0 4 165 6 6 4 250 add (EC) A 250 add (EC) A 250 add (EC) A 16 6 max	Contact characteristics			
Rated impulse withstand voltage Uimp Rated impulse withstand voltage Uimp September Rated impulse withstand voltage Uimp Protection all frequency September Rated impulse with standard Republic Research Rated Research Rated Republic Research Rated Research Ra	Number of poles		nr.	4
Province Provinc	Rated insulation voltage Ui IEC/EN		V	1000
Main Hz 25 max Hz 400 EC Conventional free air thermal current Ith	Rated impulse withstand voltage Uimp		kV	8
ECC Conventional free air thermal current Ith	Operational frequency			_
EC Conventional free air thermal current Ith IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		min	Hz	25
EC max current le in DC1 with L/R ≤ 1ms with 4 poles in series		max	Hz	400
A 00V A 165 600V A 165 600V A 165 800V A 165 800V A 165 800V A 165 800V A 100 800V	IEC Conventional free air thermal current Ith		Α	165
Short-time allowable current for 10s (IEC/EN60947-1) A 125	IEC max current le in DC1 with L/R ≤ 1ms with 4 poles in series			
Short-time allowable current for 10s (IEC/EN60947-1)		400V	Α	165
No		600V	Α	165
Short-time allowable current for 10s (IEC/EN60947-1)		800V	Α	125
Protection fuse		1000V	Α	100
Resistance per pole (average value) mΩ 0.45	Short-time allowable current for 10s (IEC/EN60947-1)		Α	1200
Resistance per pole (average value) mΩ 0.45	Protection fuse			_
Resistance per pole (average value) mΩ 0.45 Power dissipation per pole (average value) Ith W 12 Tightening torque for terminals min Nm Nm 7 min Ibin 4.4 max Ibin 5.2 Tightening torque for coil terminal min Nm 0.8 max Nm 1 min Ibit 0.59 max Ibit 0.74 Max number of wires simultaneously connectable nr. 2 Conductor section Flexible w/o lug conductor section Flexible c/w lug conductor section min mm² 70 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 IP20 front Mechanical features Operating position		gG (IEC)	Α	250
Power dissipation per pole (average value) Ith W 12 Tightening torque for terminals		aM (IEC)	Α	160
Ith W 12	Resistance per pole (average value)		mΩ	0.45
Tightening torque for terminals	Power dissipation per pole (average value)			
Min Nm 6 max Nm 7 min Ibin 4.4 max Ibin 5.2		Ith	W	12
Max Nm 7 Nm 1bin 4.4 Max 1bin 5.2	Tightening torque for terminals			
Min		min	Nm	6
Max Ibin 5.2		max	Nm	7
Tightening torque for coil terminal min Nm 0.8 max Nm 1 min lbft 0.59 max lbft 0.74 Max number of wires simultaneously connectable Conductor section Flexible w/o lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 Mechanical features Operating position		min	Ibin	4.4
min Nm 0.8 max Nm 1 min lbft 0.59 max lbft 0.74		max	lbin	5.2
max Nm 1 min lbft 0.59 max lbft 0.74 Max number of wires simultaneously connectable nr. 2 Conductor section Flexible w/o lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section power terminal protection according to IEC/EN 60529 Mechanical features Operating position normal vertical plan	Tightening torque for coil terminal			
Max number of wires simultaneously connectablemin max lbft no.740.59 nax lbft no.74Conductor sectionnr. 2Flexible w/o lug conductor sectionmin mm² nm² nm² nm² nm² nm² nm² nm² nm² nm		min	Nm	0.8
Max number of wires simultaneously connectablemaxlbft0.74Conductor sectionnr.2Flexible w/o lug conductor sectionmin mm² mm² nm² nm² nm² nm² nm² nm² nm² nm		max	Nm	1
Max number of wires simultaneously connectable Conductor section Flexible w/o lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section Power terminal protection according to IEC/EN 60529 Power terminal protection according to IEC/EN 60529 IP20 front Mechanical features Operating position normal vertical plan		min	lbft	0.59
Conductor section Flexible w/o lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 Perating position Normal Normal Normal		max	lbft	0.74
Flexible w/o lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 Power terminal protection according to IEC/EN 60529 Poperating position normal vertical plan	Max number of wires simultaneously connectable		nr.	2
min mm² 1.5 max mm² 70 Flexible c/w lug conductor section min mm² 70 Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 IP20 front Mechanical features Operating position normal vertical plan	Conductor section			
max mm² 70	Flexible w/o lug conductor section			
Flexible c/w lug conductor section min mm² 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 Poperating position normal vertical plan		min	mm²	1.5
min mm² 1.5 max mm² 70 Power terminal protection according to IEC/EN 60529 Power terminal protection according to IEC/EN 60529 IP20 front Mechanical features Operating position normal vertical plan		max	mm²	70
Power terminal protection according to IEC/EN 60529 IP20 front Mechanical features Operating position normal vertical plan	Flexible c/w lug conductor section			
Power terminal protection according to IEC/EN 60529 Mechanical features Operating position normal vertical plan	-	min	mm²	1.5
Mechanical features Operating position normal vertical plan		max	mm²	70
Operating position normal vertical plan	Power terminal protection according to IEC/EN 60529			IP20 front
normal vertical plan	Mechanical features			
·	Operating position			
allowable ±30°		normal		vertical plan
		allowable		±30°



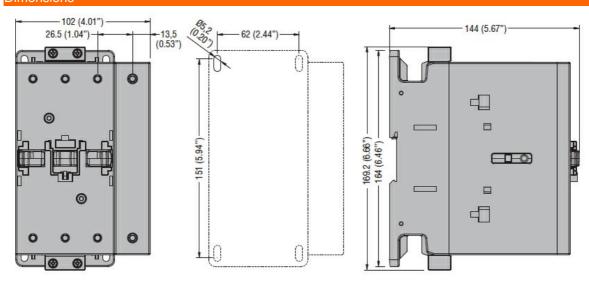
ENERGY AND AUTOMATION

Weight g 2460 Operations Mechanical life cycles 15000000 Safety related data EMC compatibility yes AC coil operating Rated AC voltage at 50/60Hz, 60Hz min V 20 max V 250	Fixing				Screw / DIN rail 35mm
Cycles 15000000 15000000 15000000 15000000 150000000 15000000000 150000000000	Weight				
Mechanical life Salety related data EMC compatibility Vo coil operating Rated AC voltage at 50/60Hz, 60Hz AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out min will 80 Us min max %Us 110 Us max drop-out min will 80 Us min max %Us 110 Us max drop-out min will 80 Us min max %Us 110 Us max drop-out min will 80 Us min max %Us 110 Us max drop-out min will 80 Us min max will 110 Us max drop-out min will 80 Us min max will 110 Us max drop-out min will 80 Us min max will 110 Us max drop-out in-rush VA 70175 holding VA 173.5 Dissipation at holding ≤20°C 50Hz Do coil operating DC rated control voltage pick-up min v 20 max v 250 DC operating voltage pick-up min will 80 Us min max will 80 Us				9	2400
Safety related data	Mechanical life			cvcles	15000000
EMC compatibility \(\text{Cool operating} \) \(\text{Rated AC voltage at 50/60Hz, 60Hz} \) \(\text{at act AC voltage at 50/60Hz, 60Hz} \) \(\text{at act AC operating voltage} \) \(\text{of 50/60Hz coil powered at 50Hz} \) \(\text{pick-up} \) \(\text{pick-up} \) \(\text{max} \) \(\text{vulser} \) \(\text{at act Morp-out} \) \(\text{max} \) \(\text{vulser} \) \(\text{vulser} \) \(\text{at act Morp-out} \) \(\text{max} \) \(\text{vulser}					
AC coll operating Rated AC voltage at 50/60Hz, 60Hz min V 20 max V 250	-				yes
Max V 20 max V 250	AC coil operating				
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min		0/60Hz, 60Hz			
AC operating voltage of 50/60Hz coil powered at 50Hz pick-up min max %Us 110 Us max drop-out max %Us 80 Us min max %Us 570 Us min of 50/60Hz coil powered at 60Hz pick-up min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out min %Us 80 Us min max %Us 110 Us max drop-out max %Us 570 Us min AC operating voltage at 20°C of 50/60Hz coil powered at 50Hz in-rush vA 70175 holding VA 1.73.5 of 50/60Hz coil powered at 60Hz in-rush vA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush vA 70175 holding VA 1.73.5 Dissipation at holding \$20°C 50Hz Dropout min v 20 max v 250 Dropout min v 250 max v 250 Dropout min v 250 max v 250 Dropout min v 20 max v 250 Dropout max v 20 us min max wull so us min max v 20 us v 3 min max			min	V	20
of 50/60Hz coil powered at 50Hz pick-up min max Mus			max	V	250
Pick-up	AC operating voltage				
Max Mus		of 50/60Hz coil powered at 50Hz			
Max Mus		pick-up			
Array			min		
Max Mus 570 Us min of 50/60Hz coil powered at 60Hz pick-up min Mus 80 Us min max Mus 110 Us max drop-out max Mus 570 Us min max Mus 570			max	%Us	110 Us max
of 50/60Hz coil powered at 60Hz pick-up min		drop-out			
Pick-up min max			max	%Us	≤70 Us min
Mark		·			
Max Mus 110 Us max Mus 270 Us min AC operating voltage at 20°C of 50/60Hz coil powered at 50Hz in-rush vA 70175 holding vA 1,73,5 of 50/60Hz coil powered at 60Hz in-rush vA 70175 holding vA 1,73,5 of 60Hz coil powered at 60Hz in-rush vA 70175 holding vA 1,73,5 of 60Hz coil powered at 60Hz in-rush vA 70175 holding vA 1,73,5 of 60Hz coil powered at 60Hz in-rush vA 70175 holding vA 1,73,5 of 60Hz coil powered at 60Hz in-rush vA 70175 holding vA 1,73,5 of 60Hz coil powered at 60Hz in-rush vA 70175 holding vA 1,73,5 of 60Hz coil powered at 60Hz in-rush vA 20 in-rush		pick-up		0/11	
AC operating voltage at 20°C Of 50/60Hz coil powered at 50Hz In-rush holding VA 70175 ho					
AC operating voltage at 20°C of 50/60Hz coil powered at 50Hz in-rush		drop out	max	%US	110 Us max
AC operating voltage at 20°C of 50/60Hz coil powered at 50Hz In-rush VA 70175 holding VA 1.73.5 Of 50/60Hz coil powered at 60Hz In-rush VA 70175 holding VA 1.73.5 Of 60Hz coil powered at 60Hz In-rush VA 70175 holding VA 1.73.5 Of 60Hz coil powered at 60Hz In-rush VA 70175 holding VA 1.73.5 Occord operating VA 1.73.5 Occord operating VA 1.73.5 Occord operating VA 1.73.5 Occord operating voltage In-rush VA 20 max V 250 Occord operating voltage In-rush VA 20 max VA 250 Occord operating voltage In-rush VA 20 In-		αιορ-ουι	may	9/ L lo	<70 He min
of 50/60Hz coil powered at 50Hz in-rush VA 70175 holding VA 1.73.5 of 50/60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 of 60Hz coil powered at 60Hz in-rush VA 70175 in-rush VA 70	AC operating voltage s	ot 20°C	IIIdx	/005	270 05 11111
in-rush holding	AC operating voitage a				
Nolding VA 1.73.5 of 50/60Hz coil powered at 60Hz		of 30/00112 con powered at 30112	in-rush	\/Δ	70 175
of 50/60Hz coil powered at 60Hz in-rush holding VA 70175 holding VA 173.5 of 60Hz coil powered at 60Hz in-rush holding VA 173.5 of 60Hz coil powered at 60Hz in-rush holding VA 173.5 in-rush V 20 max V 250 in-rush V 20 max V 250 in-rush V 20					
in-rush holding		of 50/60Hz coil powered at 60Hz	Holding	٧/١	1.70.0
holding		01 00/00112 0011 poworou at 00112	in-rush	VA	70175
of 60Hz coil powered at 60Hz in-rush VA 70175 holding VA 1.73.5 Dissipation at holding ≤20°C 50Hz W 1.31,5 DC coil operating DC rated control voltage min V 20 max V 250 DC operating voltage pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us ≤70 Us min Average coil consumption ≤20°C in-rush W 7080 holding W 1.31.5 Max cycles frequency Mechanical operation cycles/h 2000 Departing times Average time for Us control in AC					
in-rush VA 70175 holding VA 1.73.5 Dissipation at holding ≤20°C 50Hz W 1.31,5 DC coil operating DC rated control voltage min V 20 max V 250 DC operating voltage pick-up min %Us 80 Us min max %Us 110 Us max drop-out max %Us \$110 Us max Average coil consumption ≤20°C in-rush W 7080 holding W 1.31.5 Max cycles frequency Mechanical operation cycles/h 2000 Departing times Average time for Us control in AC		of 60Hz coil powered at 60Hz			
Dissipation at holding ≤20°C 50Hz W 1.31,5 DC coil operating		•	in-rush	VA	70175
DC rated control voltage			holding	VA	1.73.5
Min V 20 max V 250	Dissipation at holding s	≤20°C 50Hz		W	1.31,5
min	OC coil operating				
Max V 250	DC rated control voltag	ge			
DC operating voltage			min	V	20
pick-up			max	V	250
min %Us 80 Us min max %Us 110 Us max	OC operating voltage				
max %Us 110 Us max		pick-up			
drop-out max %Us ≤70 Us min Average coil consumption ≤20°C in-rush W 7080 holding W 1.31.5 Max cycles frequency Wechanical operation cycles/h 2000 Operating times Average time for Us control in AC			min		
Max %Us ≤70 Us min Average coil consumption ≤20°C in-rush W 7080 holding W 1.31.5 Max cycles frequency w 1.31.5 Mechanical operation cycles/h 2000 Operating times Average time for Us control in AC			max	%Us	110 Us max
Average coil consumption ≤20°C in-rush W 7080 holding W 1.31.5 Max cycles frequency Mechanical operation cycles/h 2000 Operating times Average time for Us control in AC		drop-out			
in-rush W 7080 holding W 1.31.5 Max cycles frequency Mechanical operation cycles/h 2000 Operating times Average time for Us control in AC	 		max	%Us	≤70 Us min
Max cycles frequency Mechanical operation Operating times Average time for Us control in AC	Average coil consump	tion ≤20°C			
Max cycles frequency Mechanical operation cycles/h 2000 Degrating times Average time for Us control in AC					
Mechanical operation cycles/h 2000 Degrating times Average time for Us control in AC			holding	W	1.31.5
Operating times Average time for Us control in AC					0000
Average time for Us control in AC	-			cycles/h	2000
in AC		vatural.			
	average time for Us co				



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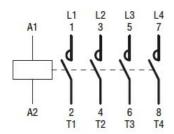
			min	ms	45
			max	ms	40
		Opening NO			
			min	ms	24
			max	ms	60
	in DC				
		Closing NO			
		-	min	ms	45
			max	ms	90
		Opening NO			
			min	ms	24
			max	ms	60
UL technical data					
General USE					
	Contactor				
			AC current	Α	165
	4 poles in series DC1				
			600V	Α	165
Ambient conditions					
Temperature					
	Operating temperature	•			
			min	°C	-40
			min max	°C °C	-40 70
	Storage temperature				
	Storage temperature				
	Storage temperature		max	°C	70
Max altitude	Storage temperature		max min	°C	-50
Max altitude Resistance & Protection			max min	°C °C °C	-50 80
			max min	°C °C °C	-50 80



Wiring diagrams



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Certifications and compliance

Compliance

CSA C22.2 n° 60947-1

CSA C22.2 n° 60947-4-1.

IEC/EN 60947-1

IEC/EN 60947-4-1

UL 60947-4-1

Certificates

cULus