Lovato electric
ENERGY AND AUTOMATION

Product designation			Power contactor
Product type designation			BF230
Contact characteristics			
Number of poles	Nr.		4
Rated insulation voltage Ui IEC/EN	V		1000
Rated impulse withstand voltage Uimp	kV		8
Operational frequency			
min	Hz		25
max	Hz		400
IEC Conventional free air thermal current Ith	A		350
Operational current Ie			
AC-1 (≤40°C)	A		350
AC-1 (≤55°C)	A		290
AC-1 (≤70°C)	A		250
AC-3 (≤440V ≤55°C)	A		230
AC-4 (400V)	A		110
Rated operational power AC-1 (T≤40°C)			
230V	kW		132
400V	kW		230
500V	kW		253
690V	kW		397
IEC max current Ie in DC1 with L/R ≤ 1ms with 1 poles in series			
≤24V	A		350
48V	A		350
75V	A		350
110V	A		145
220V	A		–
IEC max current Ie in DC1 with L/R ≤ 1ms with 2 poles in series			
≤24V	A		350
48V	A		350
75V	A		350
110V	A		270
220V	A		225
IEC max current Ie in DC1 with L/R ≤ 1ms with 3 poles in series			
≤24V	A		350
48V	A		350
75V	A		350
110V	A		270
220V	A		270
330V	A		225
IEC max current Ie in DC1 with L/R ≤ 1ms with 4 poles in series			
≤24V	A		350
48V	A		350
75V	A		350
110V	A		350

220V	A	350

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series

≤24V	A	350
48V	A	350
75V	A	250
110V	A	135
220V	A	–

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series

≤24V	A	350
48V	A	350
75V	A	250
110V	A	225
220V	A	180

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series

≤24V	A	350
48V	A	350
75V	A	250
110V	A	250
220V	A	225
330V	A	180

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series

≤24V	A	350
48V	A	350
75V	A	250
110V	A	250
220V	A	225
330V	A	210
460V	A	180

Short-time allowable current for 10s (IEC/EN60947-1)		A	1840

Protection fuse

gG (IEC)	A	400
aM (IEC)	A	250

Making capacity (RMS value)		A	2300

Breaking capacity at voltage

440V	A	1840
500V	A	1472
690V	A	1296

Resistance per pole (average value)		mΩ	0.18

Power dissipation per pole (average value)

Ith	W	21
AC3	W	9.3

Tightening torque for terminals

min	Nm	18
max	Nm	18
min	Ibin	159
max	Ibin	159

Tightening torque for coil terminal

min	Nm	0.8
max	Nm	1

Power terminal protection according to IEC/EN 60529		IP00

Mechanical features

Operating position

normal	Vertical plan

			allowable		±30°
Fixing					Screw
Weight				g	4000
Operations					
Mechanical life				cycles	10000000
Electrical life				cycles	1000000
Safety related data					
Performance level B10d according to EN/ISO 13489-1					
			rated load	cycles	1000000
EMC compatibility					yes
AC coil operating					
Rated AC voltage at 50/60Hz, 60Hz					
			min	V	24
			max	V	60
AC operating voltage					
	of 50/60Hz coil powered at 50Hz				
		pick-up			
			min	%Us	80 Us min
			max	%Us	110 Us max
		drop-out			
			max	%Us	≤70 Us min
	of 50/60Hz coil powered at 60Hz				
		pick-up			
			min	%Us	80 Us min
			max	%Us	110 Us max
		drop-out			
			max	%Us	≤70 Us min
AC average coil consumption at 20°C					
	of 50/60Hz coil powered at 50Hz				
			in-rush	VA	160…230
			holding	VA	1.5...3.0
	of 50/60Hz coil powered at 60Hz				
			in-rush	VA	160…230
			holding	VA	1.5...3.0
	of 60Hz coil powered at 60Hz				
			in-rush	VA	160…230
			holding	VA	1.5...3.0
Dissipation at holding ≤20°C 50Hz				W	1.5...3.0
DC coil operating					
DC rated control voltage					
			min	V	20
			max	V	60
DC operating voltage					
	pick-up				
			min	%Us	85 Us min
			max	%Us	110 Us max
	drop-out				
			max	%Us	≤70 Us min
Average coil consumption ≤20°C					
			in-rush	W	160…230
			holding	W	1.5...3.0
Max cycles frequency					
Mechanical operation				cycles/h	1000

Operating times

Average time for Us control					
in AC					
	Closing NO				
			min	ms	50
			max	ms	100
	Opening NO				
			min	ms	30
			max	ms	75

UL technical data

Yielded mechanical performance			
for three-phase AC motor			
	200/208V	HP	75
	220/230V	HP	75
	460/480V	HP	150
	575/600V	HP	200

General USE			
Contactor			
	AC current	A	350

Short-circuit protection fuse, 600V			
High fault			
	Short circuit current	kA	100
	Fuse rating	A	400
	Fuse class		J
Standard fault			
	Short circuit current	kA	10
	Fuse rating	A	400
	Fuse class		RK5

Ambient conditions

Temperature				
Operating temperature				
		min	°C	-40
		max	°C	70
Storage temperature				
		min	°C	-50
		max	°C	80

Max altitude		m	3000

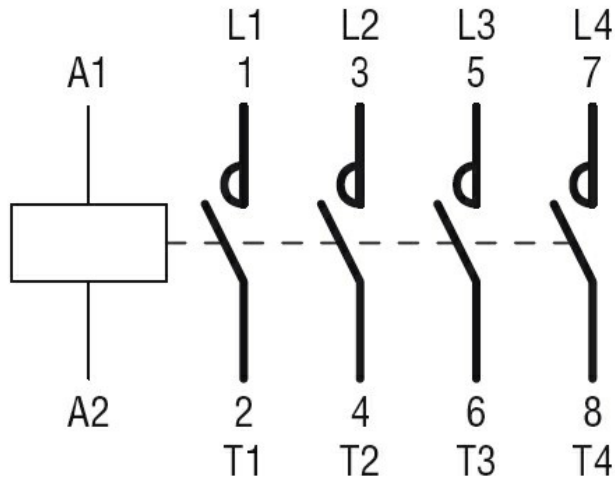## Resistance & Protection

Pollution degree	3

Dimensions
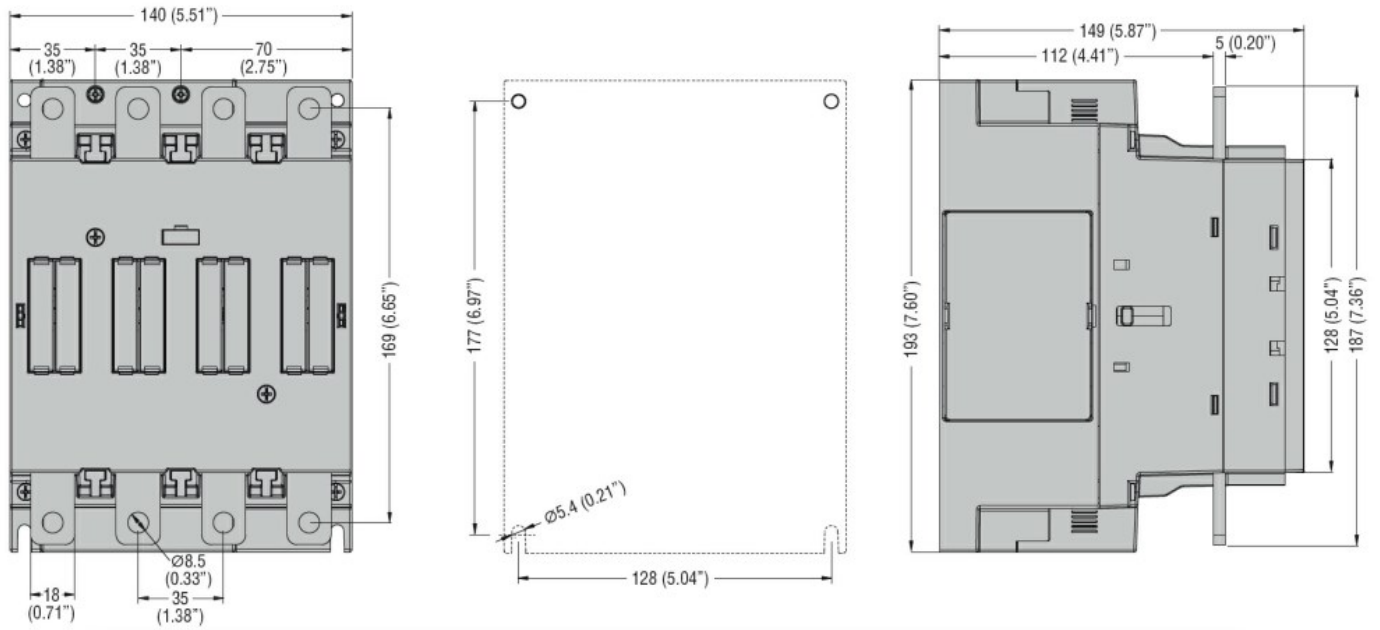
Wiring diagrams

Certifications and compliance

Certificates

cULus

ETIM classification

ETIM 8.0	EC000066 - Power contactor, AC switching

BF230T4E024

The characteristics described in this document are subject to updates or modifications at any time. The descriptions, technical and functional information, illustrations and instructions in this brochure are purely illustrative, and are consequently not contractually binding

5 / 5