EKF

TECHNICAL MANUAL

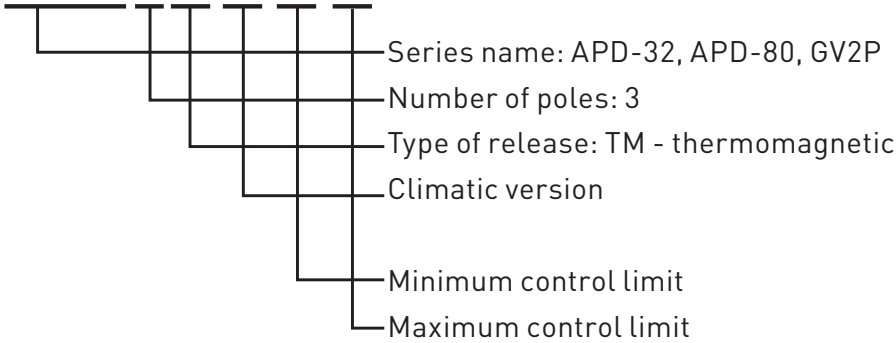
Motor starters APD-32, APD-80, GV2P EKF

1 DESCRIPTION

The motor starters APD-32, APD-80, GV2P with thermomagnetic release are designed for switching AC circuits with voltages up to 690 V and 50/60 Hz frequency, and for control and protection of three-phase asynchronous motors against overload, phase loss, and short-circuit. The motor starters comply with IEC 60947-2:2016.

TYPE CODE

APD-XX -3 TM-NF-XX-XX



2 TECHNICAL DATA

Table 1

Characteristics	**Value**	
Series name	**APD-32, GV2P**	**APD-80**
Rated operating voltage Ue, V	400-660	400-690
Rated insulation voltage Ui, V	690	
Rated impulse voltage Uimp, kV	6	
Frequency, Hz	50/60	
Setting range of thermal release Ir, A	0,16-32	16-80
Trip setting ratio at short-circuit	13 Ir	
Application category	AC-3	
Electrical endurance, O-C cycles	2 000	
Mechanical endurance, O-C cycles	10 000	
Max. switching frequency, cycles/hour	25	
Power dissipation per pole, W	2.5	
Degree of protection	IP 20	
Weight, kg	0.3	0.9
Max. cross-section of connected wires, mm^2	35	
Power dissipation from each pole, W	2.5	8

Operation conditions: operating temperature: from –20°C to +40°C.

POWER OF THREE-PHASE ASYNCHRONOUS MOTORS BY RATED CURRENT OF THE MOTOR STARTERS

Table 2

Thermal release setpoint current, A	Setpoint adjustment range of thermal release Ir, A	Three-phase electric motor power, kW		
		Category AC-3, 50/60 Hz		
		380/415 V	500 V	690 V
Motor starters APD-32, GV2P				
0,16	0,1 – 0,16	0,02	0,03	0,04
0,25	0,16 – 0,25	0,06	0,08	0,11
0,4	0,25 – 0,4	0,09	0,13	0,18
0,63	0,4 – 0,63	0,18	0,25	0,37
1	0,63 – 1	0,25	0,4	0,55
1,6	1 – 1,6	0,55	0,75	1,1
2,5	1,6 – 2,5	0,75	1,1	1,5
4	2,5 – 4	1,5	2,2	3
6,3	4 – 6,3	2,2	3	4
10	6 – 10	4	5,5	7,5
14	9 – 14	5,5	7,5	11
18	13 – 18	7,5	9	15
23	17 – 23	9	11	18,5
25	20 – 25	11	15	–
32	24 – 32	15	18,5	22
Motor starters APD-80				
16	10 – 16	7,5	9	11
25	16 – 25	11	15	18,5
40	25 – 40	18,5	22	30
63	40 – 63	30	37	45
80	56 – 80	37	45	55

BREAKING CAPACITIES OF THE MOTOR STARTERS

Table 3

Rated operating current, A	Maximum breaking capacity Icu and operating breaking capacity Ics					
	380/415 V		500 V		660 V	
	Icu kA	Ics % kA	Icu kA	Ics % kA	Icu kA	Ics % kA
Motor starters APD-32, GV2P						
0,1 – 1,6	100	100	100	100	–	–
0,16 – 0,25	100	100	100	100	–	–
0,25 – 0,4	100	100	100	100	–	–
0,4 – 0,63	100	100	100	100	–	–
0,63 – 1	100	100	100	100	–	–
1 – 1,6	100	100	100	100	–	–
1,6 – 2,5	100	100	100	100	3	75
2,5 – 4	100	100	100	100	3	75

Table 3 continued

Rated operating current, A	Maximum breaking capacity Icu and operating breaking capacity Ics					
	380/415 V		500 V		660 V	
	Icu kA	Ics % kA	Icu kA	Ics % kA	Icu kA	Ics % kA
Motor starters APD-32, GV2P						
4 – 6,3	100	100	50	100	3	75
6 – 10	100	100	10	100	3	75
9 – 14	15	50	6	75	3	75
13 – 18	15	50	6	75	3	75
17 – 23	15	50	4	75	3	75
20 – 25	15	50	4	75	3	75
24 – 32	10	50	4	75	3	75
Motor starters APD-80						
16 – 25	100	50	8	100	4	100
25 – 40	35	50	8	75	4	75
40 – 63	35	50	8	75	4	75
56 – 80	15	50	4	100	2	100

TRIPPING CHARACTERISTICS

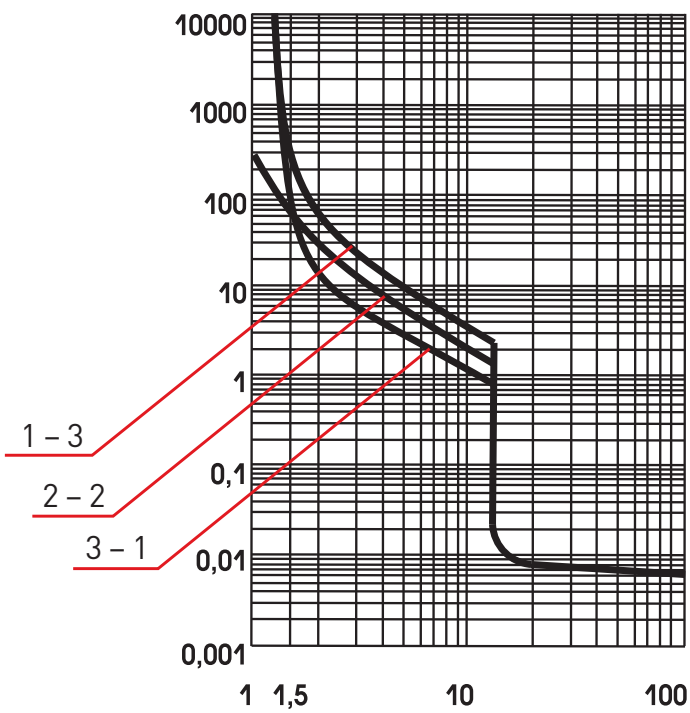
1 – three poles from cold position

2 – two poles from cold position

3 – one pole from cold position

Time (s)

Tripping time at 20°C by increase in current setting ratio



Setting current ratio (Ir)

3 TECHNICAL DATA OF APD ACCESSORIES

Table 4

Undervoltage release (RMN) and shunt release (RN)				
Name	Voltage, V			
	operating voltage at 50 Hz	Insulation voltage Ui	Hold voltage	Release voltage
Motor starters APD-32, GV2P				
APD-32-RMN-11	220-240	690	(0,85...1,1) Un	(0,8...0,35) Un
APD-32-RMN-11	220-240		(0,7...1,1) Un	(0,65...0,2) Un
Motor starters APD-80				
APD-80-RMN-11		690	(0,8...1,1) Un	(0,7...3,5) Un
APD-80-RMN-22	220-240			
APD-80-RMN-32				
APD-80-RMN-11				
APD-80-RMN-22	220-240			
APD-80-RN-38				

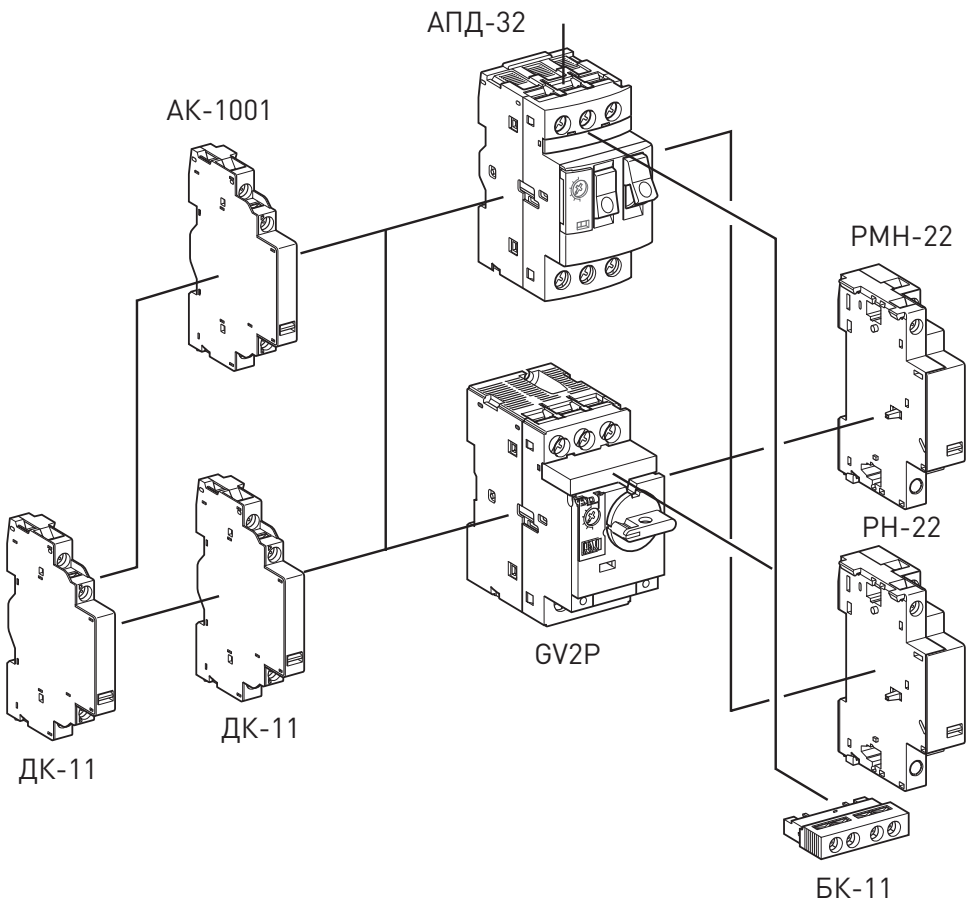


Рис. 1 - Все аксессуары для АПД-32 совместимы с GV2P.

Нужен перевод этого Рус. текста на Eng.

Особенности эксплуатации и монтажа:
К одному выключателю АПД-32, GV2P можно установить:
- один дополнительный расцепитель
- два дополнительных боковых контакта
- один аварийный контакт и один блок-контакт.
Блок-контакт устанавливается спереди над управлением
Расцепитель устанавливается с правой стороны.

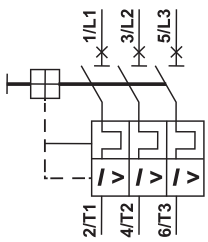
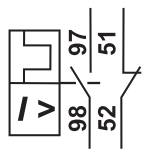
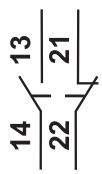
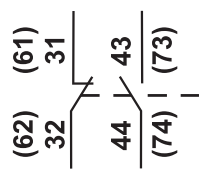
Нужен перевод этого Рус. текста на Eng.
наши переводчики:
О. Петкилева
Н. Семилетов

Table 5

Auxiliary contact (DK), auxiliary contact (BK) and alarm contacts (AK)					
Name	**Mounting type**	**Type of contacts**	**Insulation voltage Ui, V**	**Max. number per APD**	**Thermal resistance current Ith, A**
APD-32-DK-11	on the left side of the APD	NO+NC	690	2	6
APD-32-AK-1001				1	2.5
APD-32-BK-11	in the front, above control		250		

3.1 WIRING DIAGRAMS

Table 6

APD	**APD accessories diagrams**	
	Alarm contacts	
	AK-1001	
		
	Auxiliary contacts	
	BK-11	**DK-11**
		
	Undervoltage release RMN	
		

4 INSTALLATION AND OVERALL DIMENSIONS

APD-32

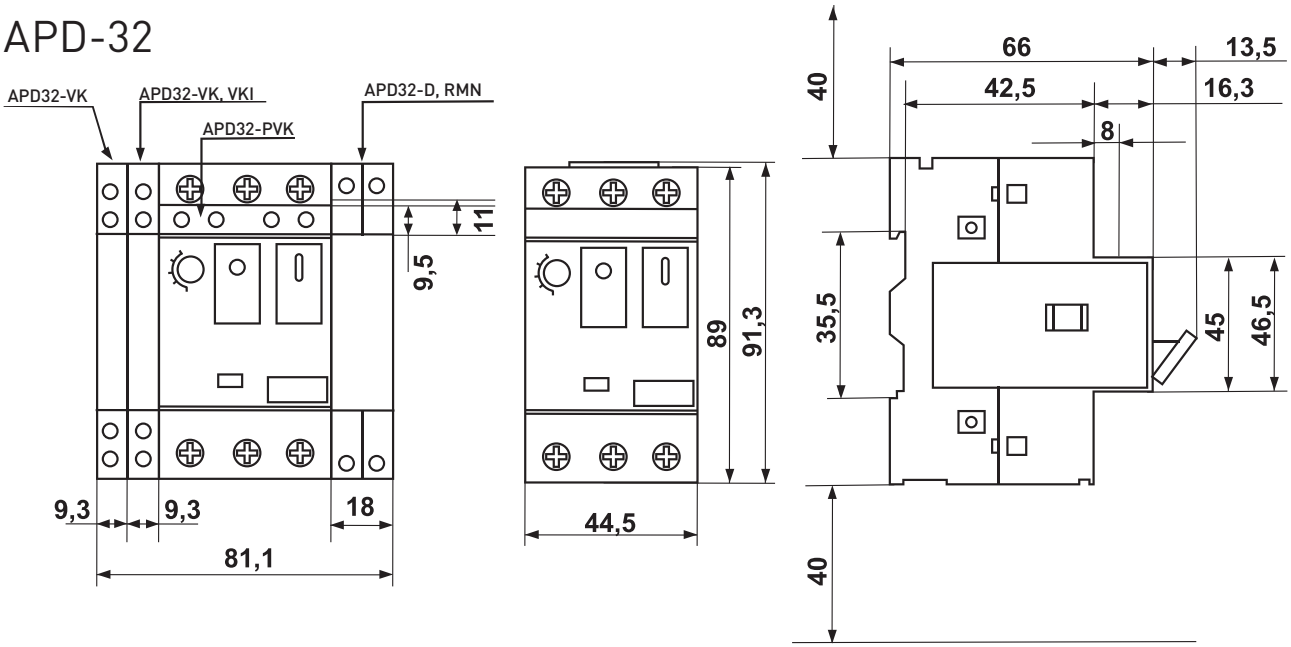
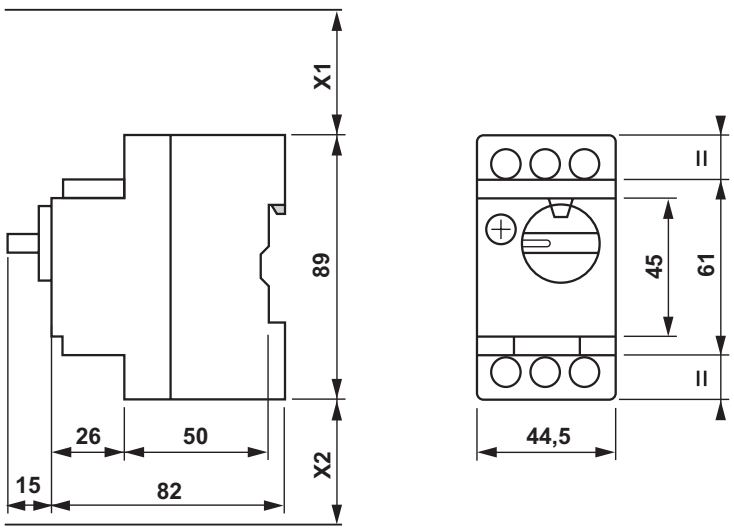


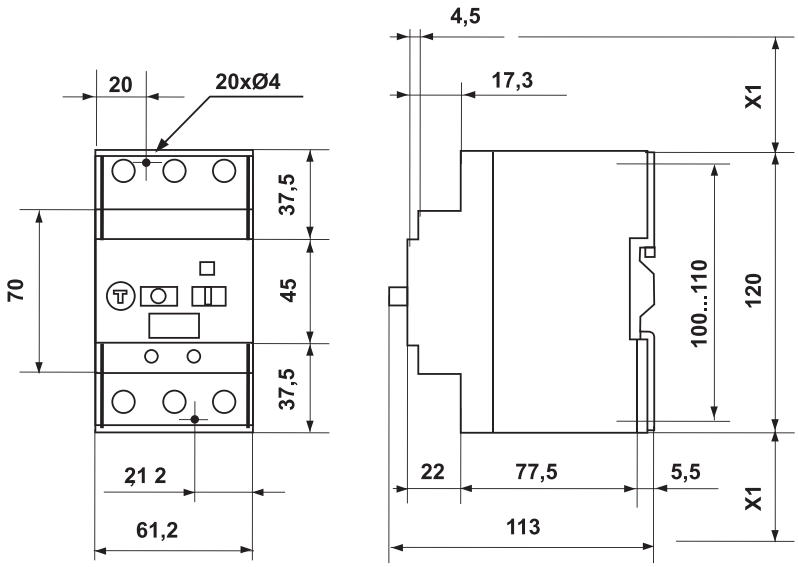
Fig. 2

GV2P



x1 – minimum distance between live parts (ICS max.)
40 mm for Ue ⩽ 415 V
80 mm for Ue = 440 V
120 mm for Ue = 500, 690 V
x2 = 40 mm

Fig. 3



x1 – minimum distance between live parts (ICS max)
40 mm for Ue < 500 V
50 mm for Ue < 690 V

Fig. 4

POSITION IN SPACE

Motor starters shall be mounted and connected by qualified electrical personnel. Motor starters shall be mounted onto 35mm DIN rail. Connection options with copper and aluminum wires are supported. Do not connect copper and aluminum wires to one terminal concurrently. Power supply shall be connected from the top of the motor starter. Tightening torque: max. 2,5 N•m for copper wires; max. 2,2 N•m for aluminum-alloy wires, series 8000.

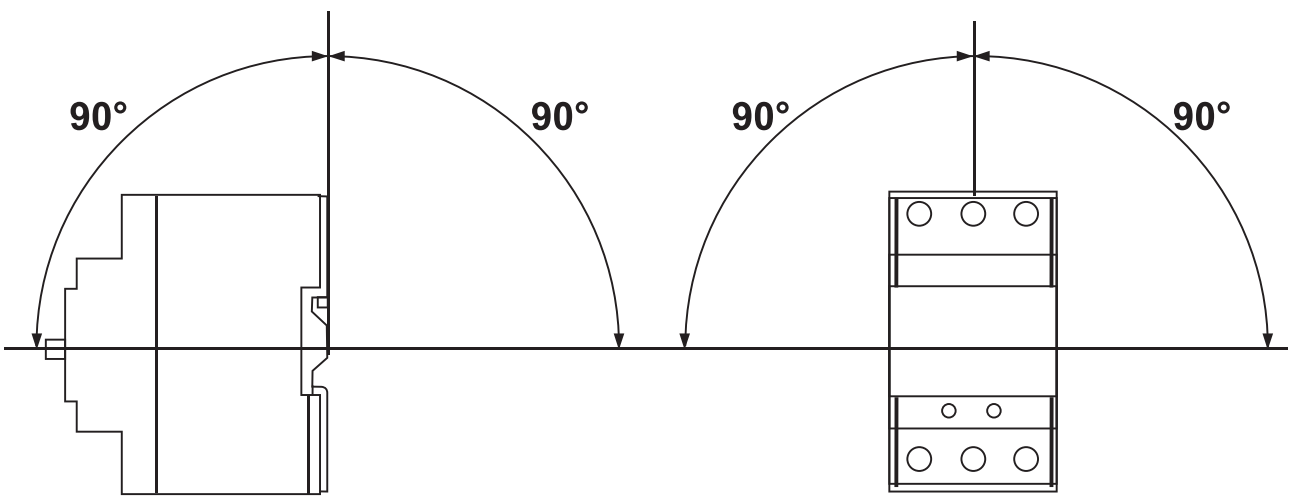


Fig. 5

5 DELIVERY SCOPE

Motor starters are supplied in an individual package. For all available documentation, scan the QR-code on the insert or on the inside of the package.

6 SAFETY REQUIREMENTS

Do not operate motor starters with visual mechanical damage.

7 MAINTENANCE

7.1 For maintenance, follow national safety rules for operation of electrical Installations.
7.2 Under normal operating conditions, visually inspect the motor starter, check «ON/OFF» operations and tighten screw terminals (may be loosen due to changes in the ambient temperatures and material properties) every 6 months.
7.3 Do not operate the motor starter, if visual damage to the housing is found.

8 STORAGE AND TRANSPORTATION

8.1 Motor starters can be transported by any means of enclosed transport that ensures protection of packed products from mechanical and atmospheric impacts.
8.2 Motor starters shall be stored in the original package indoors at the ambient temperature from -40°C up to +55°C and relative humidity of max. 80% at +25°C.

9 DISPOSAL

Life-expired and failed products shall be disposed of in compliance with the national and local laws and regulations in force. To dispose of the product, send it to an authorized company for recycling in compliance with the national and local laws and regulations in force.

10 MANUFACTURER'S WARRANTY

The manufacturer guarantees the devices comply with the declared characteristics, provided that the consumer follows the operation, transportation and storage conditions.
Warranty period: 7 years from the date of sale specified in the sales receipt.
Shelf life: 7 years from the date of manufacture specified on the package or the product.
Service life: 10 years.

Manufacturer: OOO Electroresheniya, Otradnaya st., 2b/9, 127273, Moscow, Russia, tel. +7 (495) 788-88-15.

MEA regional headquarters: EKF ELECTRICAL SOLUTION FZCO, Office 249, Techno Hub-2, Dubai Silicon Oasis, P.O. box 341079, Dubai, United Arab Emirates, tel. +9 (714) 547-06-18.

11 CERTIFICATE OF ACCEPTANCE

The motor starter has been approved for operation.

Date of manufacture: for information refer to the product.

Quality control stamp

EBL

V3

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