

NEW

Togami

DC Operational

Magnetic Contactors/Starters

PAK-K Series



Togami Electric Mfg. Co., Ltd.



Catalog No. C0292e

Magnetic Contactors/Starters

DC Operational Type, PAK-K Series

PAK-K series, developed by knowledge and technology based on 90years experience meet "Customers' Demand".

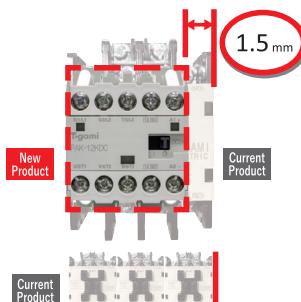


Save the Space in Control Box.

Minimum width contactor realizes miniaturization of the box.

*In-company research

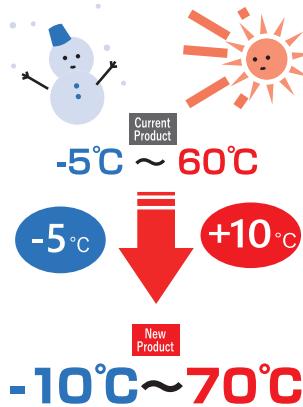
eg.) PAK-12KDC :
Reduce by 1.5(4.5)mm



*This image is for illustration purpose only.

Stable Operation in Wide Temperature Range.

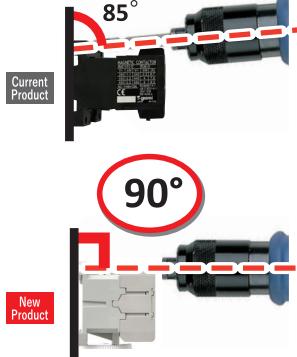
Extend the ambient temperature for use from -10°C to 70°C. Optimum Contactor for Cold or Hot Climate.



*With derating

Shorten the Time for Mounting Work.

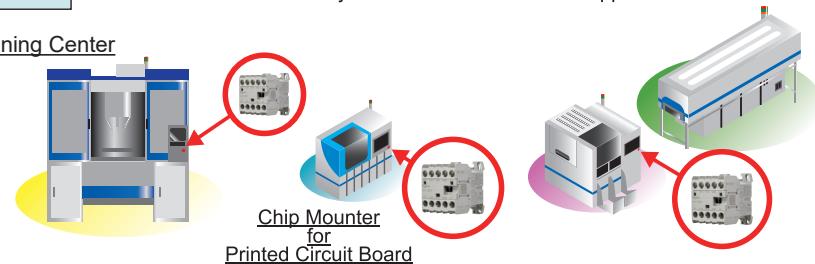
Mounting without slant of driver improves work efficiency.



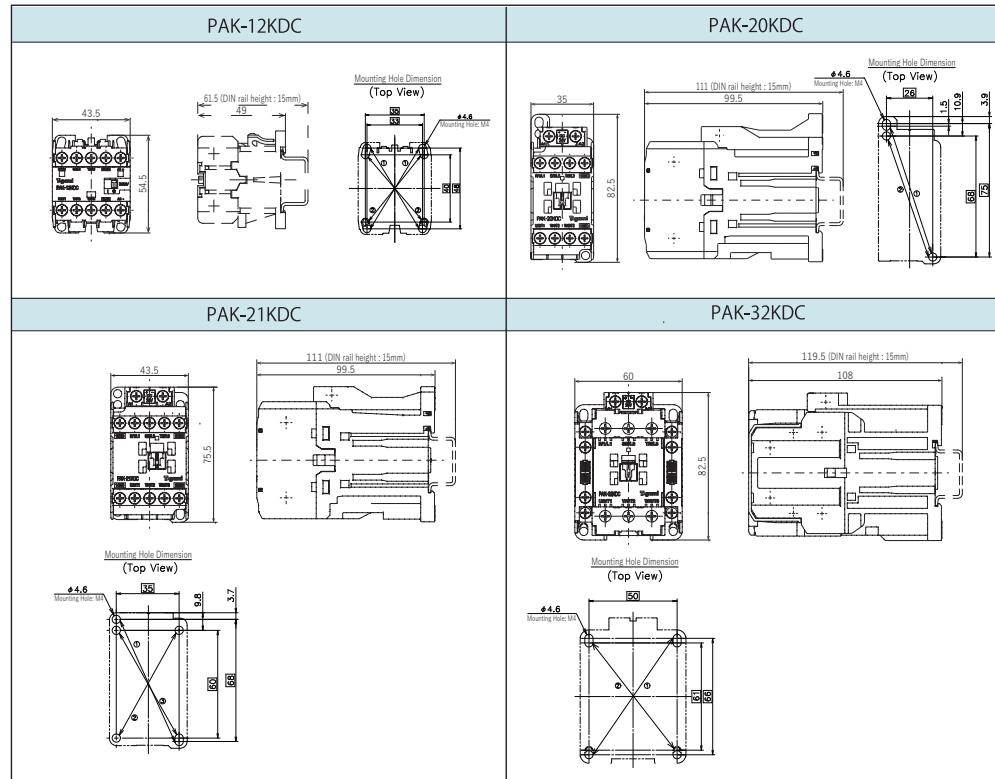
Application

Suitable for control of safety circuit and motor for each application.

CNC Machining Center



Drawing



Meaning of Type Name

eg.) PAK - 12K DC Z T 31 - 3

①Type	②Frame	③Type of Coil	④Type of Coil Surge Absorption Unit	⑤Specifications	⑥Auxiliary Contact Arrangement ²	⑦No. of Heater in Thermal Overload Relay
PAK : Standard model RSK : Reversing model	12K : 12A Frame 20K : 20A Frame 21K : 20A Frame 32K : 32A Frame	DC : DC Operational Coil	Blank : Varistor Z : Diode ^{*1}	Blank : Not Combined T : Combined with 1E Relay GT : Combined with 2E Relay	PAK-12, 20KDC Blank : 1NO 31 : 1NC PAK-21KDC Blank : 1NO1NC 20 : 2NO 02 : 2NC PAK-32KDC Blank : 2NO2NC	Blank : 1E 2Heaters or 2E 3Heaters 3 : 1E 3Heaters

^{*1}1 Diode element coil surge absorption unit is available only for PAK-12KDC.

^{*2}Regarding auxiliary contact arrangement of RSK series, please refer to "Technical Data".

Technical Data

Type Name		Series		K Series							
		Magnetic Contactor	Non Reversing	PAK-12KDC	PAK-12KDC31	PAK-20KDC	PAK-20KDC31	PAK-21KDC	PAK-21KDC20	PAK-21KDC02	PAK-32KDC
Magnetic Starter (with 1E, 2 Heaters Thermal Overload Relay)	Reversing	-	-	RSK-20KDC	-	-	-	RSK-21KDC20	-	-	RSK-32KDC
	Non Reversing	PAK-12KDCT	PAK-12KDCT31	PAK-20KDCT	PAK-20KDCT31	PAK-21KDCT	PAK-21KDCT20	PAK-21KDCT02	PAK-32KDCT	-	RSK-32KDCT
	Reversing	-	-	RSK-20KDCT	-	-	-	RSK-21KDCT20	-	-	RSK-32KDCT
	Thermal Overload Relay	TJ-18K1	TJ-18K1	TJ-18K3							
Magnetic Starter (with 2E, 3 Heaters Thermal Overload Relay)	Non Reversing	PAK-12KDCGT	PAK-12KDCGT31	PAK-20KDCGT	PAK-20KDCGT31	PAK-21KDCGT	PAK-21KDCGT20	PAK-21KDCGT02	PAK-32KDCGT	-	RSK-32KDCGT
	Reversing	-	-	RSK-20KDCGT	-	-	-	RSK-21KDCGT20	-	-	RSK-32KDCGT
	Thermal Overload Relay	GTJ-18K1	GTJ-18K1	GTJ-18K3							
	Non Reversing	PAK-12KDCT-3	PAK-12KDCT31-3	PAK-20KDCT-3	PAK-20KDCT31-3	PAK-21KDCT-3	PAK-21KDCT20-3	PAK-21KDCT02-3	PAK-32KDCT-3	-	RSK-32KDCT-3
Magnetic Starter (with 1E, 3 Heaters Thermal Overload Relay)	Reversing	-	-	RSK-20KDCT-3	-	-	-	RSK-21KDCT20-3	-	-	RSK-32KDCT-3
	Thermal Overload Relay	TJ-18K1-3	TJ-18K1-3	TJ-18K3-3							
	Non Reversing	1NO	1NC	1NO	1NC	1NO1NC	2NO	2NC	2NO2NC	-	2NO2NC
	Maximum Auxiliary Contact with Accessory	-	-	3NO2NC	2NO3NC	3NO3NC	4NO2NC	2NO4NC	4NO4NC	-	4NO4NC
Contact Arrangement (Note.1)	Standard	-	-	2NO	-	-	4NO	-	-	4NO4NC	-
	Reversing	-	-	6NO4NC	-	-	8NO4NC	-	-	8NO8NC	-
Rated Insulation Voltage		690V									
Rated Frequency	50/60Hz										
Pollution Degree		3									
Rating	Main Circuit	200-240V	JIS : 2.2kW IEC : 3kW/12A	3.7kW/20A(17A)	-	3.7kW/20A(17A)	-	7.5kW/32A(30A)	-	-	-
		AC-3 : Squirrel-cage Motor (Note.2)	380-440V	5.5kW/12A	7.5kW/20A(17A)	-	7.5kW/20A(17A)	-	15kW/32A(30A)	-	-
		500-550V	5.5kW/9A	7.5kW/17A	-	7.5kW/17A	-	11kW/20A	-	-	-
		AC-3 : Single-Phase Motor (Note.2)	100-110V	0.2kW/8A	0.75kW/20A(17A)	-	0.75kW/20A(17A)	-	1.5kW/32A(30A)	-	-
	AC-1 : Resistance, Heater (Note.2) (Electrical Life : 500,000 ops.)(Note.3)	200-240V	0.4kW/6A	1.5kW/20A(17A)	-	1.5kW/20A(17A)	-	-	-	-	-
		100-240V	20A(16A)	20A(17A)	-	20A(17A)	-	32A(30A)	-	-	-
		380-440V	20A(16A)	20A(17A)	-	20A(17A)	-	32A(30A)	-	-	-
	AC-4 : Inchng, Plugging (Note.2) (Electrical Life : 30,000 ops.)	200-240V	-	3.7kW/20A(17A)	-	3.7kW/20A(17A)	-	5.5kW/26A	-	-	-
		380-440V	-	5.5kW/13A	-	5.5kW/13A	-	11kW/24A	-	-	-
	Conventional Free Air Thermal Current (Ith) (Note.2)	500-550V	-	5.5kW/10A	-	5.5kW/10A	-	7.5kW/13A	-	-	-
		Magnetic Contactor	20A(16A)	20A(17A)	-	20A(17A)	-	32A(30A)	-	-	-
	Magnetic Starter	20A	20A	20A	-	20A	-	32A	-	-	-
Auxiliary Contact	Rated Operational Current (AC-15 : AC Coil Load)	100-110V	6A	6A	-	6A	-	6A	-	-	-
		200-240V	3A	3A	-	3A	-	3A	-	-	-
		380-440V	1.5A	1.5A	-	1.5A	-	1.5A	-	-	-
	Rated Operational Current (DC-13 : DC Coil Load)	24V	3A	3A	-	3A	-	3A	-	-	-
		48V	1.5A	1.5A	-	1.5A	-	1.5A	-	-	-
		110V	0.6A	0.6A	-	0.6A	-	0.6A	-	-	-
		220V	0.3A	0.3A	-	0.3A	-	0.3A	-	-	-
	Conventional Free Air Thermal Current (Ith)		10A	10A	-	10A	-	10A	-	-	-
	Minimum Operational Voltage / Current		DC5V 3mA	DC5V 3mA	-	DC5V 3mA	-	DC5V 3mA	-	-	-
	Coil Voltage		DC12V, DC15V, DC24V, DC48V, DC100V, DC110V, DC200V, DC220V	-	-	-	-	-	-	-	-
Performance	IEC, JEM	AC-3	AC-3	AC-3	AC-3	AC-3	AC-3	AC-3	AC-3	AC-3	AC-3
	Mechanical Durability	10,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
	Electrical Durability	200-240V	1,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
		380-440V	750,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
	Switching Frequency (ops./hour)	-	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Characteristic		Power Consumption (Note.4)	1.2W(1.7W)	2.3W(3.1W)	2.2W(3.0W)						
Dimension		Magnetic Contactor (Width×Height×Depth [mm])	43.5×54.5×49	35×82.5×99.5	43.5×75.5×99.5	43.5×75.5×99.5	43.5×75.5×99.5	43.5×75.5×99.5	43.5×75.5×99.5	43.5×75.5×99.5	60×82.5×108
DIN Rail Mounting		-	✓	✓	✓	✓	✓	✓	✓	✓	✓
Twin Contact (Auxiliary)		-	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mirror Contacts		-	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coil Surge Absorption Unit (Note.5)		Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)	Built-in(Varistor)
Accessory	Auxiliary Contact Unit	KAU-2	2NO	-	KAU-2-20	-	KAU-2-20	-	KAU-2-20	-	KAU-2-20
			1NO1NC	-	KAU-2-11	-	KAU-2-11	-	KAU-2-11	-	KAU-2-11
			2NC	-	KAU-2-02	-	KAU-2-02	-	KAU-2-02	-	KAU-2-02
		KAU-4	4NO	-	KAU-4-40	-	KAU-4-40	-	KAU-4-40	-	KAU-4-40
			3NO1NC	-	KAU-4-31	-	KAU-4-31	-	KAU-4-31	-	KAU-4-31
			2NO2NC	-	KAU-4-22	-	KAU-4-22	-	KAU-4-22	-	KAU-4-22
Complying with		cULus, TUV, CCC, CE									

Note.1 : In addition to auxiliary contact noted in above chart, reversing model has 2NC auxiliary contact for electrical interlock as standard.

"Maximum Auxiliary Contact with Accessory" shows the contact arrangement when contactor combined with KAU-4-22.

Note.2 : Rated current value in parentheses shows the value when the contactor used in 55°C or more.

Note.3 : Electrical life at AC-1 of each model is as follows. 12AF:250,000 ops. 20~32AF:500,000 ops.

Note.4 : Those values shows characteristics of DC24V coil. Also, product with DC24V coil can be directly operated by 0.1A/2.4kW of output from PLC. Values in parentheses shows the characteristics of DC100V coil.

Note.5 : Diode element coil surge absorption unit is available only for PAK-12KDC.

Warranty

■Warranty Period

One(1) year after arrival on your designated location.

■Warranty Scope

If the products concerned have defects in material and workmanship under normal operating conditions within the warranty period, those shall be repaired at no charge.

Regardless of in or out of warranty period, loss of opportunity and lost earnings at the customer caused by the failures of the products, any damages caused by special situations regardless of potential foresight, secondary loss, accident compensation, damages to anything other than the products, compensation for other jobs performed by the customer, and damages caused by any reasons which Togami doesn't have responsibility, shall be outside the scope of compensation from Togami.

Disclaimer : Please note that Specification and Dimension might be changed without notification.

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