2C PLC Relays

Defining an interface relay in simple terms

An interface relay is an electromagnetic switch operated by a relatively small electric current that can turn on or off a much larger electric current.

Which actions are executed?

Switching
Protection
Controlling
Filtering **Isolation**

An interface relay is an electrically operated switch that is used where it is necesarry to control a circuit by a low-power signal.

It provides complete electrical protective isolation between control and controlled circuits.

Filtering AC power input signals in order to prevent leakage current.

Saving money and increasing efficiency for PLC outputs.

Reduced PLC outputs to meet energy consumption goals.

Which markets are they used frequently?

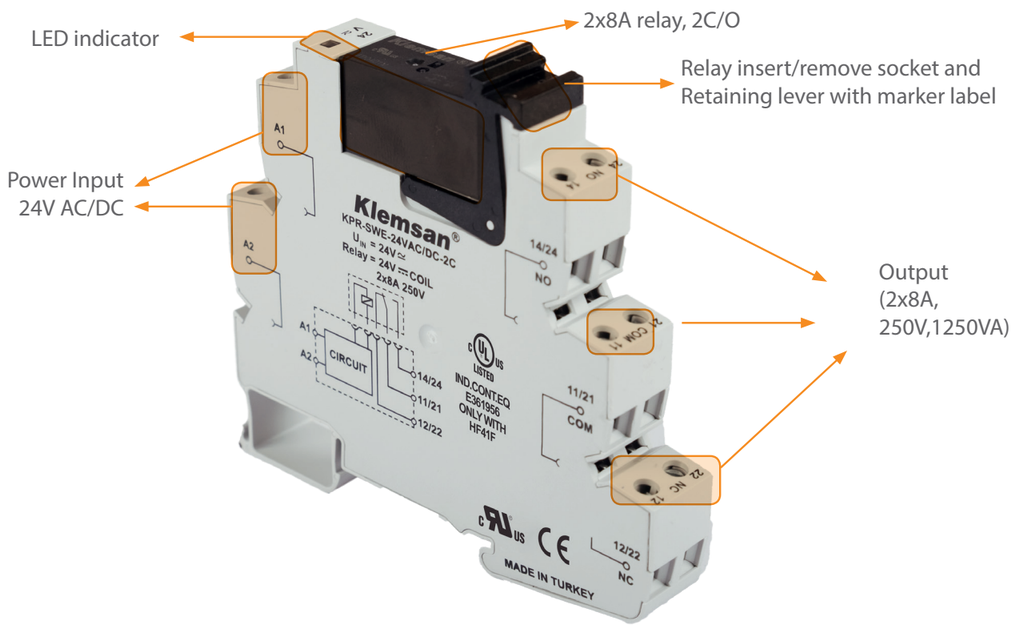
- PLC automation systems
- Electric power plants
- Energy management systems
- Medium Voltage Panels
- Industrial Machines

Benefits and Advantages

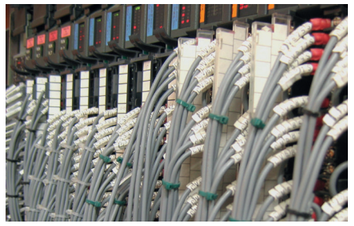
- A widely range of power input from 6V to 230V
- DC and AC supply voltage options
- Integrated RCZ filter option
- Saving wiring time with plug-in bridges
- High quality, long useful life
- Saving space with 14mm design
- LED status indicator in order to see actual movement of the contacts
- Labeling with terminal block marking materials
- Highly compact and light weight
- High level of Electromagnetic compatibility (EMC) i.e. maximum immunity to interferences.
- Self-Extinguishing plastic housing
- UL certificate

Layout & Mounting

Klemsan interface relays are suitable for snap mounting onto 35 mm standards DIN rails.



Automation System



Reduced PLC outputs to meet energy consumption goals

I/O CONTROL
All models

Machine Control and Safety

Provides isolation between control and controlled circuits .

ISOLATION
All models

Scada System

Lenghten PLC outputs lifes by using interface relay to turn many devices on and off simultaneously.

I/O CONTROL
All models

Control Panels

It provides to control more than one load with extrarnal pluggable bridges.

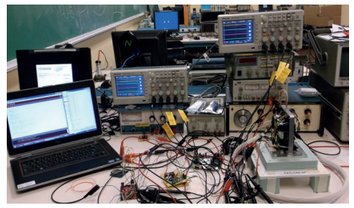
I/O CONTROL
All models

Chemical Industry

Safe isolation between inputs and outputs for pumps, compressors and air conditioning applications.

CONTROLLING
All models

Electrical Test Systems



The interface between test equipment and systemI/O devices with a high switching capacity.

CONTROLLING
All models

Pneumatic Control

Switching currents or voltage too high for PLC outputs to handle.

SWITCHING
All models

Tight Cabinets

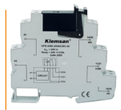
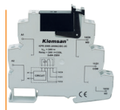
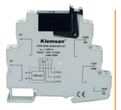
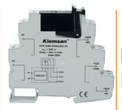
Only 6.2 mm wide, thus saving considerable space in your enclosures.

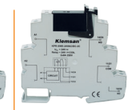
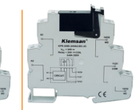
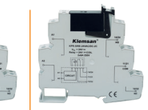
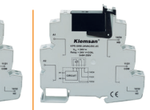
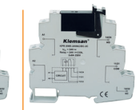
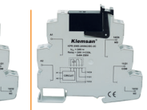
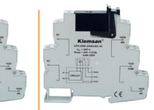
SPACE SAVING
All models

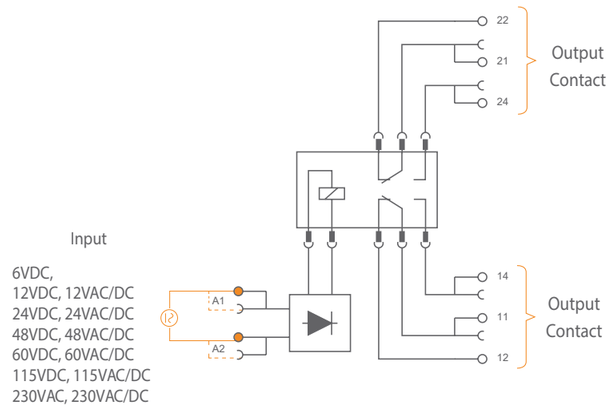
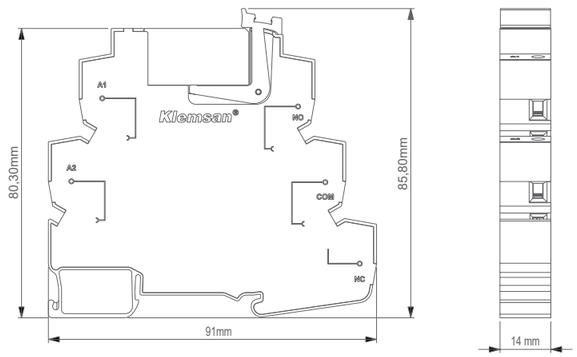
Leakage Current Applications

Preventing to stuck in “ON” state while the relay is switched as “OFF” which is caused by leakage current.

SWITCHING
KPR-SCF series

									
Pre-assembled module (relay + socket)	**Type**		**KPR-SWE-6VDC-2C**	**KPR-SWE-12VAC/DC-2C**	**KPR-SWE-12VDC-2C**	**KPR-SWE-24VAC/DC-2C**	**KPR-SWE-24VDC-2C**	**KPR-SWE-48VAC/DC-2C**	**KPR-SWE-48VDC-2C**
	Definiton		Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module
	Order Number		272 504	272 520	272 524	272 540	272 544	272 560	272 564
Casing Width(mm)			14	14	14	14	14	14	14
Connection			Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
Packaging unit			10	10	10	10	10	10	10
Input	Nominal Voltage(Un)		6VDC	12VAC/DC	12VDC	24VAC/DC	24VDC	48VAC/DC	48VDC
	Operating voltage range		> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN
	Release voltage		< %40 x UN	< %40 x UN	< %40 x UN	< %40 x UN	< %40 x UN	< %30 x UN	< %30 x UN
	Integrated RCZ filter		-	-	-	-	-	-	-
	Power Consumption	AC	-	<1VA	-	<1VA	-	<1VA	-
		DC	<1W	<1W	<1W	<1W	<1W	<1W	<1W
Contact Characteristic	Type		2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)
	Material		AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2
	Coil voltage		5VDC	12VDC	12VDC	24VDC	24VDC	48VDC	48VDC
	Coil empedance		62 x (1 ±10%) Ω	360 x (1 ±10%)	360 x (1 ±10%)	1440 x (1 ±10%)	1440 x (1 ±10%)	5760 x (1 ±10%)	5760 x (1 ±10%)
	Coil consumption		400mW	400mW	400mW	400mW	400mW	400mW	400mW
	Operate time		15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.
	Release time		8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.
	Max. ratings (AC)		8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA
	Max. ratings (DC)		8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W
	Mechanical life time		10^7	10^7	10^7	10^7	10^7	10^7	10^7
	Electrical life time	NO	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4
		NC	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4
Isolation resistance			1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
Dielectric Strength	Between relay coil and contacts		4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.
	Between contacts		1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.
Permissible ambient temperature	During operation		-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
	During storage		-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
Relative Humidity			5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
Degree of protection			IP20	IP20	IP20	IP20	IP20	IP20	IP20
Weight(gr)			56	56	56	56	56	56	56
Max. cable cross-section			2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2
Max. Torque			0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
Permissible mounting position			any	any	any	any	any	any	any
Accessories and Components	APP/KPR 	Type	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR
		Definiton	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate
		Order Number	463 247	463 247	463 247	463 247	463 247	463 247	463 247
		Packaging unit	25	25	25	25	25	25	25
	Socket 	Type	KPR-SWE-6VDC-2C (RELAY SOCKET)	KPR-SWE-12VAC/DC-2C (RELAY SOCKET)	KPR-SWE-12VDC-2C (RELAY SOCKET)	KPR-SWE-24VAC/DC-2C (RELAY SOCKET)	KPR-SWE-24VDC-2C (RELAY SOCKET)	KPR-SWE-48VAC/DC-2C (RELAY SOCKET)	KPR-SWE-48VDC-2C (RELAY SOCKET)
		Definiton	Interface relay socket (6VDC)	Interface relay socket (12VAC/DC)	Interface relay socket (12VDC)	Interface relay socket (24VAC/DC)	Interface relay socket (24VDC)	Interface relay socket (48VAC/DC)	Interface relay socket (48VDC)
		Order Number	272 505	272 521	272 525	272 541	272 545	272 561	272 565
		Packaging unit	10	10	10	10	10	10	10
	Relay 	Type	2 C/O 5VDC Relay	2 C/O 12VDC Relay	2 C/O 12VDC Relay	2 C/O 24VDC Relay	2 C/O 24VDC Relay	2 C/O 48VDC Relay	2 C/O 48VDC Relay
		Definiton	Relay for 272 504 and 272 505	Relay for 272 520 and 272 521	Relay for 272 524 and 272 525	Relay for 272 540 and 272 541	Relay for 272 544 and 272 545	Relay for 272 560 and 272 561	Relay for 272 564 and 272 565
		Order Number	095 054	095 053	095 053	095 052	095 052	095 051	095 051
		Packaging unit	50	50	50	50	50	50	50
	Plug-in bridge-8 	Type	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)
		Definiton	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole
		Order Number	476 900	476 900	476 900	476 900	476 900	476 900	476 900
		Packaging unit	25	25	25	25	25	25	25
	Dekafix 	Type	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T
		Definiton	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays
		Order Number	505 390	505 390	505 390	505 390	505 390	505 390	505 390
		Packaging unit	360	360	360	360	360	360	360

											
KPR-SWE-60VAC/DC-2C	**KPR-SWE-60VDC-2C**	**KPR-SWE-115VAC/DC-2C**	**KPR-SWE-115VDC-2C**	**KPR-SWF-115VAC/DC-2C**	**KPR-SWE-230VAC/DC-2C**	**KPR-SWE-230VAC-2C**	**KPR-SWF-230VAC/VDC-2C**	**KPR-SWF-230VAC-2C**
Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module	Interface relay module
272 580	272 584	272 600	272 604	272 606	272 620	272 622	272 626	272 628
14	14	14	14	14	14	14	14	14
Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal
10	10	10	10	10	10	10	10	10
60VAC/DC	60VDC	115VAC/DC	115VDC	115VAC/DC	230VAC/DC	230VAC	230VAC/DC	230VAC
> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN	> %80 x UN
< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN	< %30 x UN
-	-	-	-	Available	-	-	Available	Available
<1VA	-	<1VA	-	<1VA	<2VA	<2VA	<2VA	<2VA
<1W	<1W	<1W	<1W	<1W	<1W	-	<2W	-
2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)	2 C/O (SPDT)
AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2	AgSnO2
60VDC	60VDC	115VDC	115VDC	115VDC	115VDC	115VDC	115VDC	115VDC
5760 x (1 ±10%)	5760 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)	25200 x (1 ±10%)
400mW	400mW	400mW	400mW	400mW	400mW	400mW	400mW	400mW
15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.	15ms Max.
8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.	8ms Max.
8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A/250VAC; 2000VA	8A/250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA	8A / 250VAC; 2000VA
8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W	8A/30VDC; 240W
10^7	10^7	10^7	10^7	10^7	10^7	10^7	10^7	10^7
3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4	3x10^4
1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4	1x10^4
1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)	1000MΩ (500VDC)
4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.	4000VAC 1 min.
1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.	1000VAC 1 min.
-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C	-40°C .. +85°C
5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)	5% .. 85% (no condensation)
IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20	IP20
56	56	56	56	56	56	56	56	56
2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2	2.5mm2
0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm	0.4Nm
any	any	any	any	any	any	any	any	any
APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR	APP/KPR
Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate	Separator plate
463 247	463 247	463 247	463 247	463 247	463 247	463 247	463 247	463 247
25	25	25	25	25	25	25	25	25
KPR-SWE-60VAC/DC-2C (RELAY SOCKET)	KPR-SWE-60VDC-2C (RELAY SOCKET)	KPR-SWE-115VAC/DC-2C (RELAY SOCKET)	KPR-SWE-115VDC-2C (RELAY SOCKET)	KPR-SWF-115VDC-2C (RELAY SOCKET)	KPR-SWE-230VAC/DC-2C (RELAY SOCKET)	KPR-SWE-230VAC-2C (RELAY SOCKET)	KPR-SWF-230VAC/DC-2C (RELAY SOCKET)	KPR-SWF-230VAC-2C (RELAY SOCKET)
Interface relay socket (60VAC/DC)	Interface relay socket (60VDC)	Interface relay socket (115VAC/DC)	Interface relay socket (115VDC)	Interface relay socket with RCZ filter (115VAC/DC)	Interface relay socket (230VAC/DC)	Interface relay socket (230VAC)	Interface relay socket with RCZ filter (230VAC/DC)	Interface relay socket with RCZ filter (230VAC)
272 581	272 585	272 601	272 605	272 607	272 621	272 623	272 627	272 629
10	10	10	10	10	10	10	10	10
2 C/O 48VDC Relay	2 C/O 48VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay	2 C/O 115VDC Relay
Relay for 272 580 and 272 581	Relay for 272 584 and 272 585	Relay for 272 600 and 272 601	Relay for 272 604 and 272 605	Relay for 272 606 and 272 607	Relay for 272 620 and 272 621	Relay for 272 622 and 272 623	Relay for 272 626 and 272 627	Relay for 272 628 and 272 629
095 051	095 051	095 050	095 050	095 050	095 050	095 050	095 050	095 050
50	50	50	50	50	50	50	50	50
TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)	TK-KPR-S (KPR-SCE BRIDGE/8)
Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole	Plug-in bridge for 8 hole
476 900	476 900	476 900	476 900	476 900	476 900	476 900	476 900	476 900
25	25	25	25	25	25	25	25	25
DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T	DG 10/6T
Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays	Terminal Labels for interface relays
505 390	505 390	505 390	505 390	505 390	505 390	505 390	505 390	505 390
360	360	360	360	360	360	360	360	360

Type	KPR-SWE-6VDC-2C	KPR-SWE-12VAC/DC-2C	KPR-SWE-12VDC-2C	KPR-SWE-24VAC/DC-2C	KPR-SWE-24VDC-2C	KPR-SWE-48VAC/DC-2C	KPR-SWE-48VDC-2C
Schematics							
Dimensional Drawings							

KPR-SWE-60VAC/DC-2C	KPR-SWE-60VDC-2C	KPR-SWE-115VAC/DC-2C	KPR-SWE-115VDC-2C	KPR-SWF-115VAC/DC-2C	KPR-SWE-230VAC/DC-2C	KPR-SWE-230VAC-2C	KPR-SWF-230VAC/VDC-2C	KPR-SWF-230VAC-2C