SAGInoMIYA

Electronic Expansion Valve Controllers

Type YNE

FEATURES

- Easy superheat control with a minimum of two setup steps.
- Selectable superheat control methods: temperature–pressure or temperature–temperature.
- Automatic target superheat optimization for consistently efficient control.
- Equipped with a software update function to support new refrigerants.
- Equipped with an MOP function for compressor overload protection.

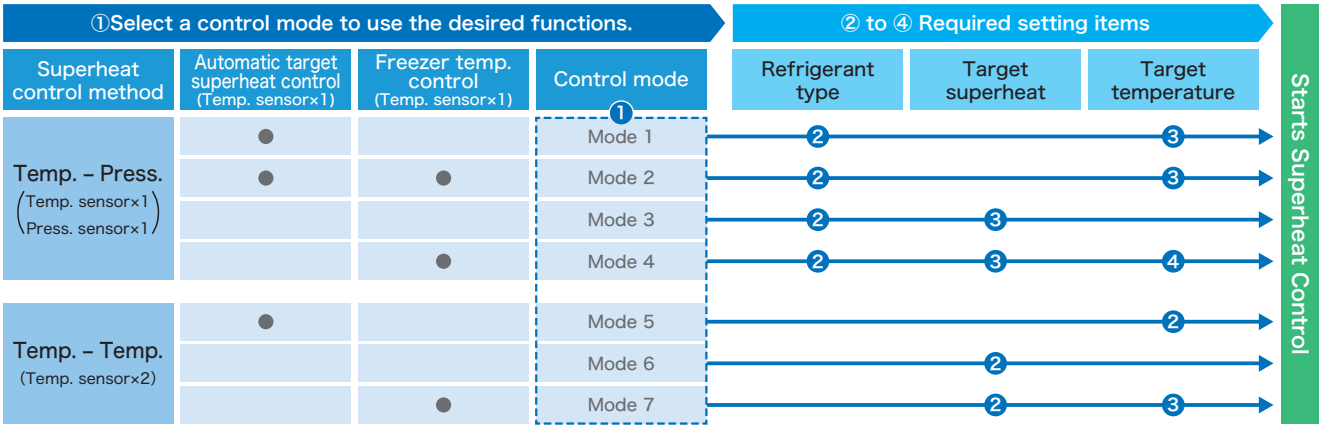


Electronic Expansion Valve Controllers | Type YNE

FEATURES

1 Easy superheat control with a minimum of two setup steps.

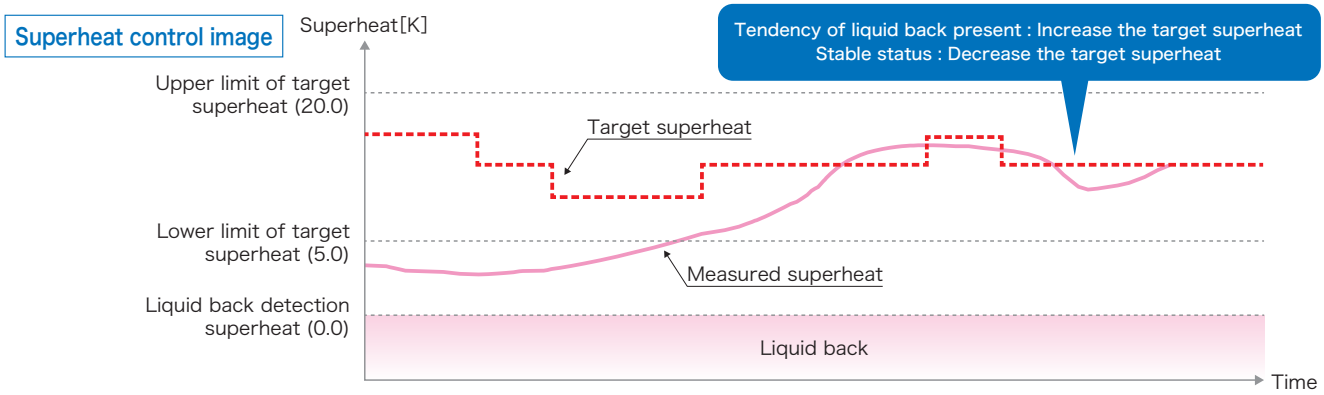
No complicated initial setup required.
With only two parameters to set, temperature control can begin immediately.



2 Selectable superheat control methods: temperature–pressure or temperature–temperature.

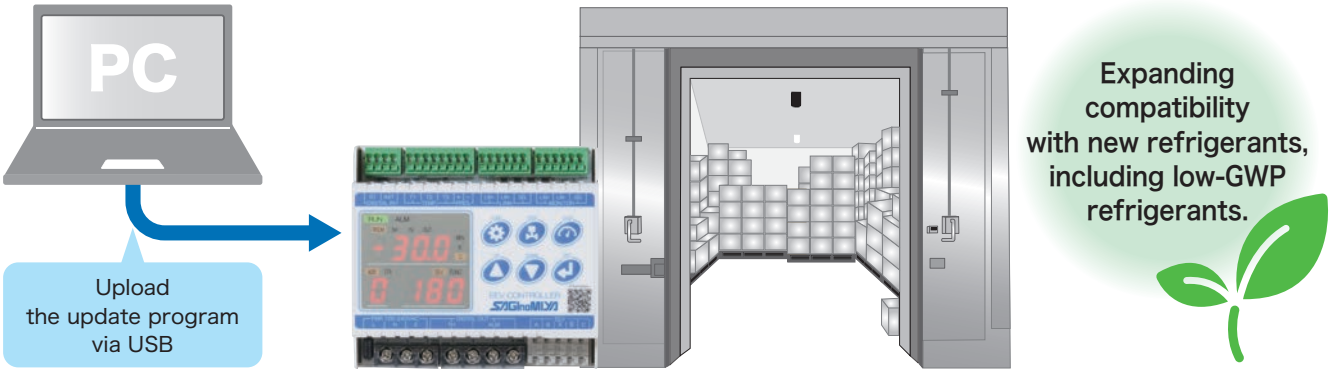
3 Automatic target superheat optimization for consistently efficient control.

Target superheat is automatically optimized by the controller to match evaporator operating conditions (with the Superheat optimization sensor). It is also effective for superheat control of non-azeotropic refrigerants, for which accurate superheat measurement is difficult.



4 Equipped with a software update function to support new refrigerants.

Flexible support for evolving refrigerant trends.
Software updates via a PC enable new refrigerants to be added even after purchase.



5 Equipped with an MOP function for compressor overload protection.

Limits evaporating pressure to help prevent compressor overload, especially during startup.
Contributes to stable system operation.

SPECIFICATIONS

Catalog no.	YNE-BB01 (Master/Slave dual functionality)
Power supply voltage	100 to 240 V.AC　50/60Hz
Power consumption	15W or less (including electronic expansion valve)
Operating ambient temperature (℃)	-10 to 50
Temperature detection range (℃)	-75 to 50
Pressure detection range (MPa)	-0.1 to 2.0
Size (mm)	105×96×51 (W×H×D)
Weight (kg)	0.27
Mounting method	DIN rail
Supported refrigerants (as of June 2026)*1	R32, R23, R134a, R404A, R410A, R448A, R449A, R463A-J
Compatible EEVs	PKV, GKV (12V.DC 46Ω)
Number of valve outputs	1
Temperature sensor inputs	Up to 3 temperature sensors (type AEK-23H/K)
Pressure sensor inputs	Up to 1 pressure sensor (type NSK-AEA20)
Superheat control method	Temperature–Pressure method or Temperature–Temperature method
Main function	Automatic superheat optimization, 2-Degree-of-Freedom PID control, EEV opening limitation, Room temperature control, Various alarm outputs*2, Master/Slave communication*3, Monitoring communication (RS-485/Modbus RTU), USB software updates, MOP function*4

Scan here for product details.

＊1　Refrigerants listed are supported under the temperature-pressure control method. For the latest information on supported refrigerants, please refer to our website (accessible via the 2D code at the top right of the specifications table).
　　Under the temperature-temperature control method, A1 and A2L refrigerants may be used even if they are not listed in the table.
＊2　Liquid floodback, abnormal freezer temperature, sensor open/short circuit errors, and electronic expansion valve open/short circuit errors
＊3　Up to four units (master and slave units combined) can be connected for master/slave operation.
＊4　MOP：Maximum Operating Pressure
＊This product does not include an electronic expansion valve, temperature sensor, pressure sensor, or solenoid valve. Please select an electronic expansion valve and solenoid valve suitable for your unit capacity.

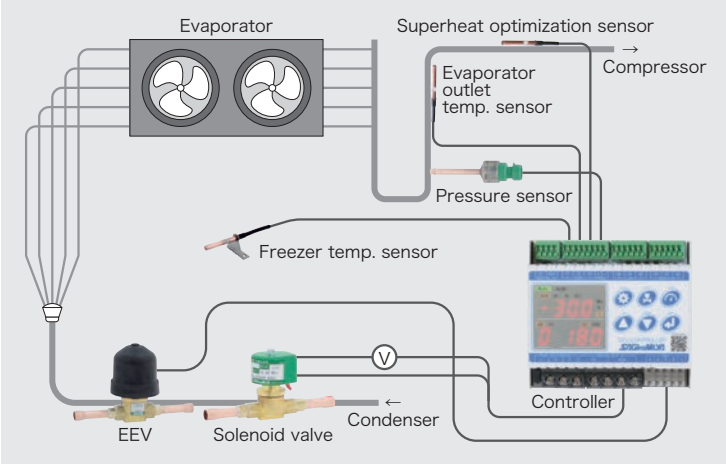
SYSTEM CONFIGURATION DIAGRAM

CASE 1

In Control Mode 2

・Temperature–Pressure method
・A superheat optimization sensor and a room temperature sensor are required

＊A separate start signal input is required.

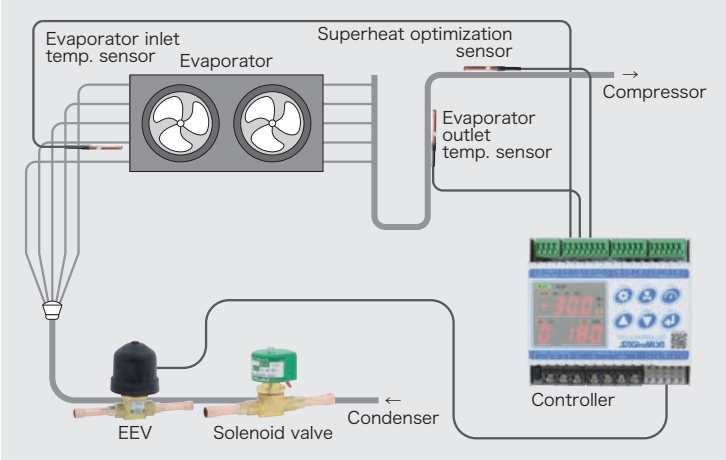


CASE 2

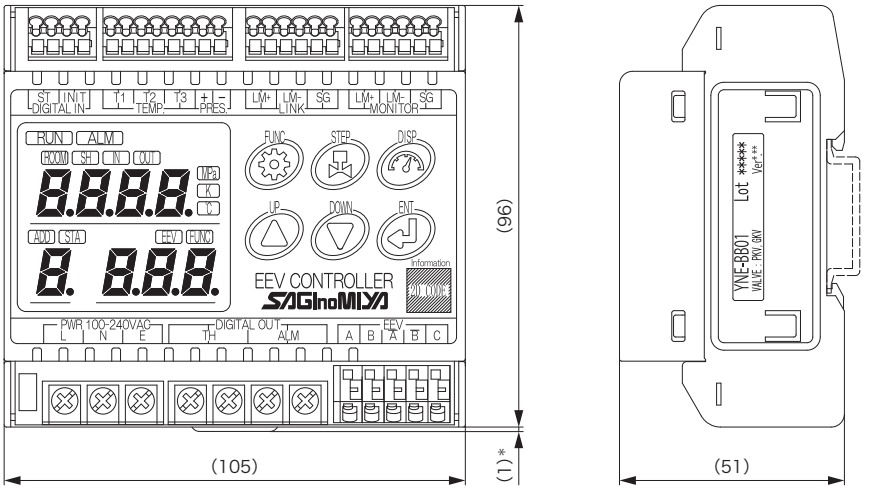
In Control Mode 5

・Temperature–Temperature method
・A superheat optimization sensor is required

＊A separate start signal input is required.



DIMENSIONS



*When mounted on a DIN rail

Unit: mm

SYSTEM COMPONENTS (Sold Separately)

• Electronic Expansion Valve



Scan here for product details.

PKV GKV

SPECIFICATIONS

Catalog no.		Port size ϕ (mm)	Cv value	Connection			Max. working pressure (MPa)	Airtight test pressure (MPa)	M.O.P.D. (MPa)	Strainer	Weight (kg)
				Style	Connection size						
Type	Model				Side B	Side A					
PKV-	14BS	1.4	0.05	Flare	3/8"	3/8"	4.2	4.2	3.5	Inlet-side 120 mesh	0.5
	18BS	1.8	0.10								
	24BS	2.4	0.17								
	30BS	3.0	0.27			1/2"			2.5		0.7
	14DS	1.4	0.05	Copper tube solder (ODF)	3/8"	3/8"	4.3	4.3	3.5	–	0.5
	18DS	1.8	0.10								
	24DS	2.4	0.17								
	30DS	3.0	0.27						2.5		
GKV-	18BS	1.8	0.10	Flare	3/8"	1/2"	4.2	4.2	3.5	Inlet-side 120 mesh	1.6
	34BS	3.4	0.31						1.77		
	60BS	6.0	0.54								
	18DS	1.8	0.10	Copper tube solder (ODF)	1/2"	1/2"	4.3	4.3	3.5	–	
	34DS	3.4	0.31						1.77		
	60DS	6.0	0.54								

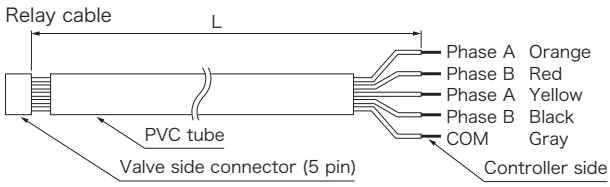
COMMON SPECIFICATION

- Fluid temperature: -50 to 60℃ (type PKV)
  -70 to 60℃ (type GKV)
- Ambient temperature: -50 to 60℃ (type PKV)
  -70 to 60℃ (type GKV)
- Ambient humidity: 95%RH or less
- Rated voltage: 12V.DC
- Excitation method: 1-2 phase, Uni-polar
- Operation range pulse: 0 to 480 pulse
- Fluids: Refrigerant

(For product details, please scan the 2D code above.)

OPTIONAL PARTS (type PKV)

Catalog no.	L (m)
PKV-LK02N	2
PKV-LK05N	5
PKV-LK10N	10



Electronic Expansion Valve Controllers | Type YNE

SYSTEM COMPONENTS (Sold Separately)

● Solenoid Valve





Scan here for product details.

SEV RPV

SPECIFICATIONS

Catalog no.		Port size ϕ (mm)	Cv value	Connection		O.P.D. (MPa)		Strainer with / without	Weight (kg)
Type	Model			Style	Connection size	Min.	Max.		
SEV-	303BYF	3.0	0.25	Flare	3/8"	0	2.45	with	0.3
	603BYF	6.0	0.80						
	1004BYF	10	1.75		1/2"	0.007			0.7
	303DYF	3.0	0.25	Copper tube solder (ODF)	3/8"	0		without	0.15
	603DYF	6.0	0.83						0.25
	1004DYF	10	2.00		1/2"	0.007			0.6
RPV-	F303BYF	3.0	0.30	Flare	3/8"	0	3.6	with	0.2
	F603BYF	6.0	0.80						0.3
	F1004BYF	10	2.00		1/2"	0.005			0.5
	F303DYF	3.0	0.30	Copper tube solder (ODF)	3/8"	0			0.15
	F603DYF	6.0	0.90						0.25
	303DYF	3.0	0.30					without	0.1
	603DYF	6.0	0.90						0.2
	1004DYF	10	2.40		1/2"	0.005			0.4

COMMON SPECIFICATION

- Max. working pressure: 4.2 MPa (type SEV)
  4.3 MPa (type RPV)
- Fluid temperature: -40 to 125˚C
- Ambient temperature: -30 to 50˚C
  (Products for ambient temperatures down to -50˚C are also available. Please contact us for details.)
- Normally closed
- Rated voltage: 24V.AC, 100V.AC, 110V.AC, 120V.AC, 200V.AC, 220V.AC, 230V.AC, 240V.AC
- Fluids: Refrigerant (For product details, please scan the 2D code above.)

Compatibility table for EEVs and solenoid valves

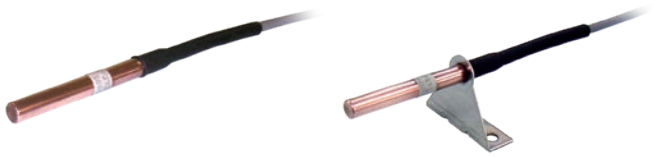
EEV catalog no.	Capacity (U.S.R.T.) {kW}	Solenoid valve catalog no.	
PKV-14BS PKV-14DS	1.0 {3.6}	SEV-303BYF SEV-303DYF	RPV-F303BYF RPV-F303DYF RPV-303DYF
PKV-18BS PKV-18DS	2.1 {7.3}	SEV-603BYF SEV-603DYF	RPV-F603BYF RPV-F603DYF RPV-603DYF
PKV-24BS PKV-24DS	3.5 {12.3}		
GKV-18BS GKV-18DS	2.1 {7.3}		
PKV-30BS PKV-30DS	5.6 {19.6}	SEV-1004BYF SEV-1004DYF	RPV-F1004BYF RPV-1004DYF
GKV-34BS GKV-34DS	6.4 {22.5}		
GKV-60BS GKV-60DS	11.2 {39.2}		

＊R404A、CT=38˚C、ET=5˚C、SC=0K、SH=0K
The nominal capacities shown above are for reference only. For details, please refer to the capacity table for solenoid valves series.

Electronic Expansion Valve Controllers | Type YNE

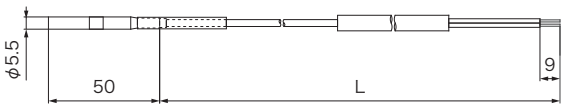
SYSTEM COMPONENTS (Sold Separately)

● Temperature Sensor

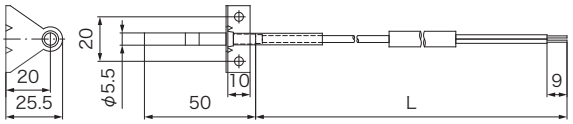


SPECIFICATIONS

Catalog no.	Usage	Lead wire length (L) (mm)	Temperature detection range (℃)	Accuracy (℃)	Temperature sensing element	Weight (kg)
AEK-23H545	For evaporator inlet / outlet temperature and superheat optimization (on refrigerant piping)	5100	-75 to 100	±0.5	Copper RTD R0=2000Ω	0.07
AEK-23H546		10100				0.12
AEK-23K512	For freezer temperature (at the suction or discharge port)	5100				0.08
AEK-23K513		10100				0.13



Type AEK-23H



Type AEK-23K

Unit: mm

● Pressure Sensor



Scan here for product details.

SPECIFICATIONS

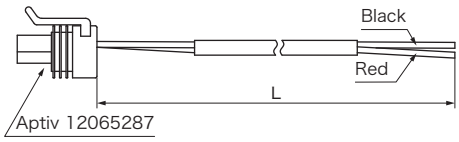
Catalog no.*	Pressure range	Output	Supply voltage	Accuracy (% F.S)	Electrical connector	Wiring (m)	Weight (kg)
NSK-AEA20□□-U05	-0.1 to 2.0MPa	4 to 20mA.DC	7 to 35V.DC	±1.0 (-40 to 100℃)	Aptiv (Compatible connector 12065287)	Up to 100	0.05

・Fluid temperature: -40 to 135℃
・Ambient temperature: -40 to 100℃ (Install the pressure sensor outside the freezer if the ambient temperature falls below -40℃.)
＊The □□ in the catalog number indicates the serial number.

Symbol	Connection type
B1	1/4" Male flare (Stainless steel)
D1	1/4" Copper tube solder
I1	1/4" Female flare (with pin) (Stainless steel)
R1	R1/8" (Stainless steel)
R2	R1/4" (Stainless steel)
N1	NPT1/8" (Stainless steel)
N2	NPT1/4" (Stainless steel)

OPTIONAL PARTS (Extension Cable)

Catalog no.	L (mm)
NSK-PP1001	1000
NSK-PP1002	3000
NSK-PP1003	5000
NSK-PP1004	10000



⚠ NOTES FOR SAFETY

Failure to read and follow all instruction carefully before installing or operating the product could cause personal injury and/or property damage.

Specifications are subject to change without notice.

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