



KARI (KA) LEVEL FLOAT SWITCH



Kari cable suspended float switches are capable of up to four switching levels in a single float, and offer 25 different configurations - including some with built in hysteresis. That means you can replace up to four single level float switches with one 4-point level switch. Kari offers high chemical compatibility and durable components built to outlast any other.

FEATURES

- Up to 4 switching levels
- Optional built-in hysteresis
- 25 configurations
- Mercury and Lead free
- High chemical compatibility
- Proven reliability in operation
- Cost effective

QUICK SPECS

- Max Voltage: 250 VAC or DC
- Temperature: Up to 167°F
- Float Material: Polypropylene
- Cable Material: PVC (standard), Polypropylene, Rubber, Teflon[®]
- IP67, NEMA 6
- CE, CSA General Purpose

KARI SPECIFICATIONS



S (STANDARD) SERIES



M SERIES



C SERIES

PERFORMANCE

- **Switching Differential:**
Standard: Min: 10 in.–Max: 50in.
Optional: Min: 2.5 in.–75 in. (60 in. M series)
- **Maximum Pressure:** 28 psi (2 bar)

CONNECTIVITY

- **Cable:** Up to 5 wires

ENVIRONMENTAL

- **Max. Liquid Temperature:**
Standard: 130°F (54°C)
Optional: 167°F (75°C)
- **Protection Rating:**
IP67
NEMA 6

PHYSICAL

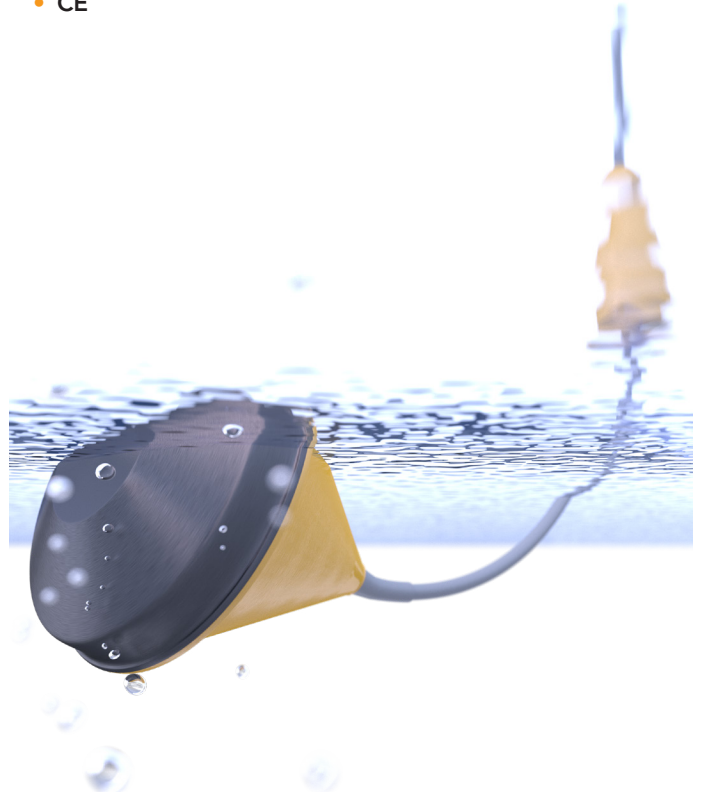
- **Minimum Fluid Specific Gravity:**
0.7 for Standard float
0.95 for Mini float
- **Standard Cable Lengths:**
5m (16 ft.)
15m (49 ft.)
- **Weight:** 1.3–4 lbs. (varies on type)
- **Float:** Polypropylene
- **Cable:**
Standard: PVC
Optional: Rubber, PTFE (Teflon®), TPU (Oil resistant)

ELECTRICAL

- **Max. Voltage:** 250 VAC or DC
- **Max. AC Current (Resistive):** 6 A
- **Max. AC Current (Inductive):** 3 A
- **Max. DC Power:** 75 VA (0.3 A @ 250 V)

CERTIFICATION

- CSA General Purpose
- CE



THE WORLD'S MOST VERSATILE & RELIABLE FLOAT SWITCH

PATENTED ONE FLOAT, MULTI-SWITCH DESIGN

Kari float switches have up to 4 switch points in a single float. This simplifies installation, avoids maintenance, and enhances reliability. No more dealing with tangles of multiple floats — streamline with APG's Kari Float Switch.

UNPARALLED RELIABILITY

Many report the typical lifespan of a competitor cable suspended float switch to be about 4 years.

We still have Kari floats in the field from 20 years ago. These reliable sensors just keep going, much longer than your run-of-the-mill float switch. Get uninterrupted service and a much lower cost of ownership in one easy-to-use package.

EASY SWITCH ADJUSTMENT

The different activation levels within the float are easy to adjust by lengthening the cable and moving the weight. The closer the weight to the float, the tighter the switching differential — or the closer the switching levels are to each other.

POPULAR APPLICATIONS

Lift Stations

While the Kari float switch can be used in a myriad applications, it's extremely well suited for lift stations. A single float can control a duplex pumping station with built-in hysteresis.

Backup Pump Control

The KA-2H and KA-2L models are ideal for backup pump control. They have built-in hysteresis (no need for a controller to provide this logic) and can be wired directly to the motor starter.



THE WORLD'S MOST VERSATILE & RELIABLE FLOAT SWITCH

High Level Alarm

A high level alarm is issued or valve discharging initiated when, for example, the pump is out of order.

Start

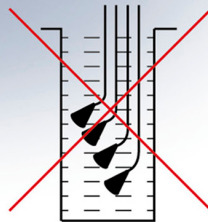
The liquid level is high.
The switch turns on the pump.

Stop

The liquid level reaches the
pre-determined lower limit.
The pump is turned off.

Low Level Alarm

A low level alarm is issued or valve
charging initiated when, for example,
the pump is out of order.



An example of a discharge function,
with the four-point 4H switch model.



25 CONFIGURATIONS, BUILT-IN HYSTERESIS

Kari float switches come purpose built for a variety of unique applications with 25 different configurations. The diagram below describes the function and available size of each model.

Unlike any other float switch on the market, several models include built-in hysteresis. The float handles the logic all by itself—making them ideal for backup pump control applications and reducing the need for expensive controllers.

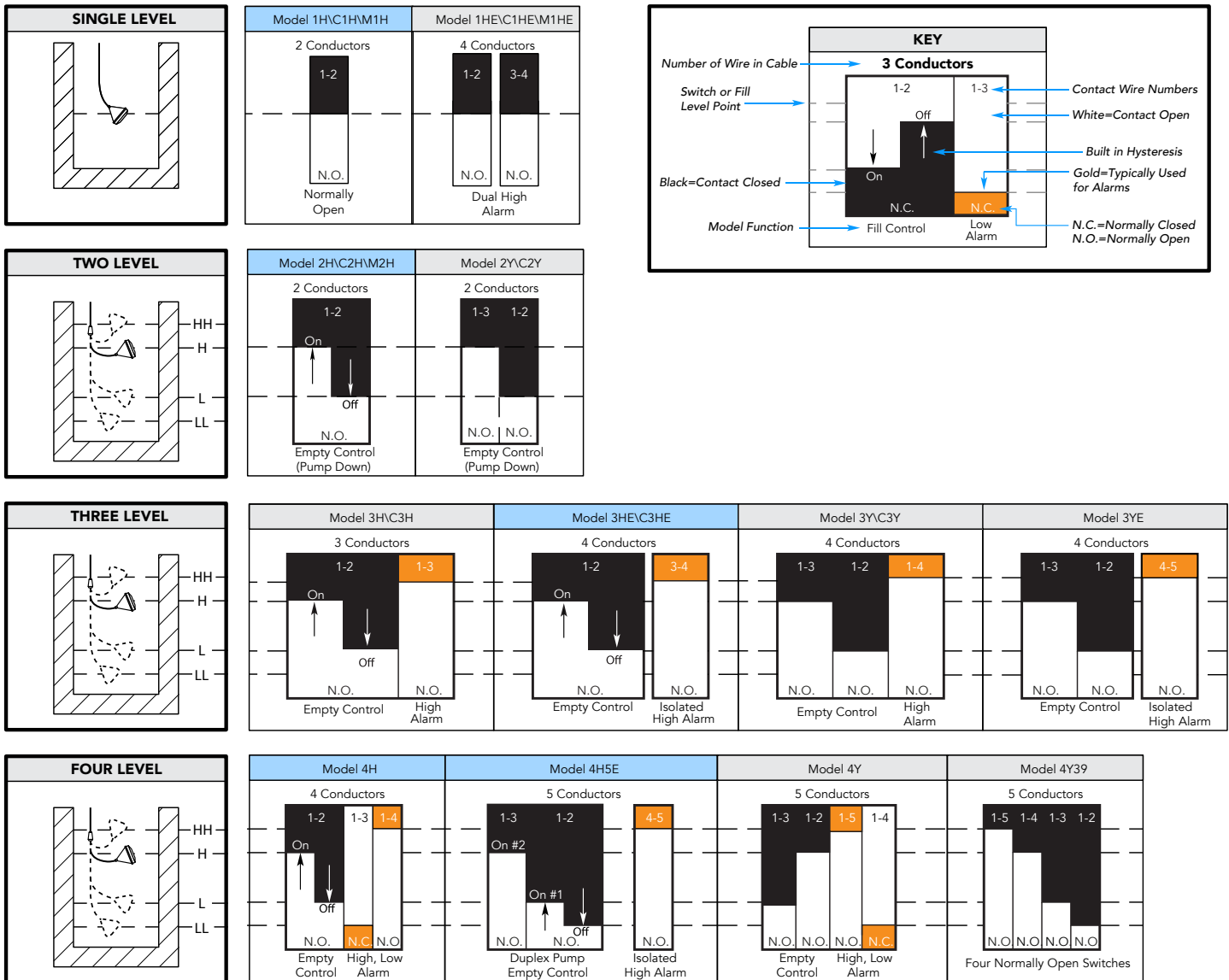
If you can wire a simple switch (give us a call and we can help), then you can achieve complex pump control behavior with a single Kari float switch.

KARI FLOAT SWITCH MODELS

Type	Description	Hysteresis	M Ø 3 in.	C Ø 3.9 in.	S Ø 6.7 in.
1H	High alarm or valve control		x	x	x
1HE	Dual high alarm		x	x	x
2H	Empty pump control	x	x	x	x
2Y	Empty pump control			x	x
3H	Empty pump control+ high alarm	x		x	x
3Y	Empty pump control+ high alarm			x	x
3HE	Empty pump control+ isolated high alarm	x		x	x
3YE	Empty pump control+ isolated high alarm				x
4H	Empty pump control+ high and low alarm	x			x
4H5E	Duplex empty pump control + isolated high alarm	x			x
4Y	Empty pump control + high and low alarm				x
4Y39	4 level empty pump control				x
1L	Low alarm or valve control		x	x	x
1LE	Dual low alarm or valve control		x	x	x
2L	Fill pump control	x	x	x	x
2A	Fill pump control			x	x
3L	Fill pump control + low alarm	x		x	x
3A	Fill pump control + low alarm				x
3LE	Fill pump control + isolated low alarm	x		x	x
3AE	Fill pump control + isolated low alarm				x
4L	Fill pump control + low and high alarm	x			x
4L5E	Duplex fill pump control + isolated low alarm	x			x
4A	Fill pump control + low and high alarm				x
1C	High or low alarm, change-over switch		x	x	x
2HL	High and low alarm			x	x

MODEL SELECTION GUIDE

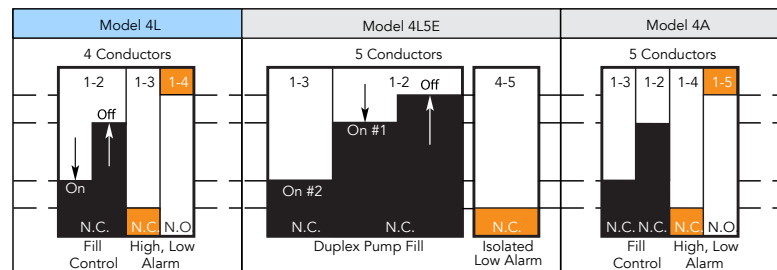
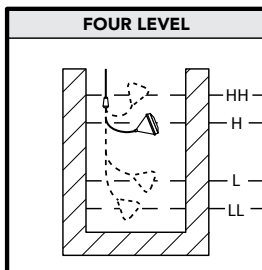
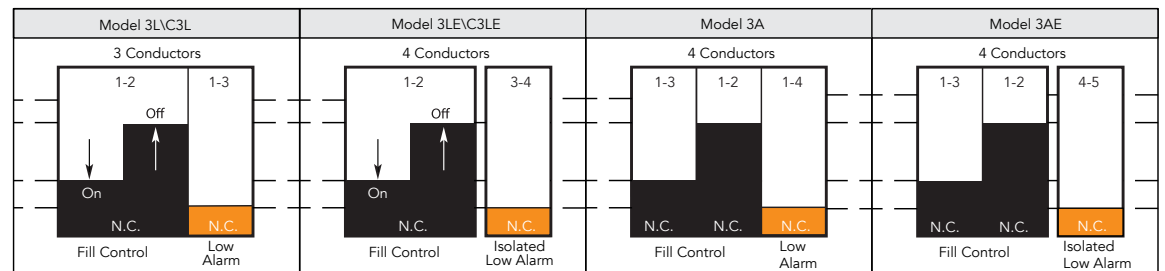
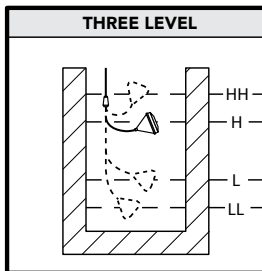
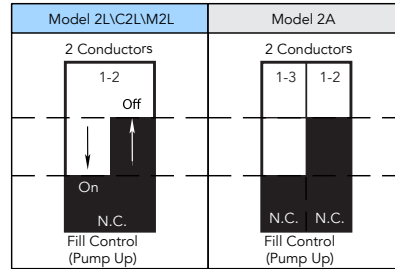
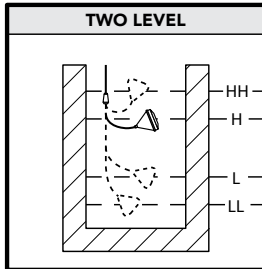
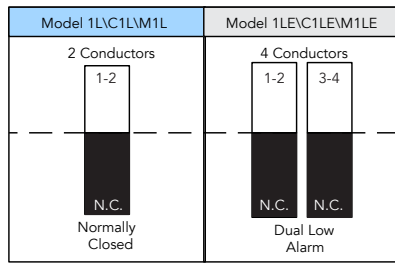
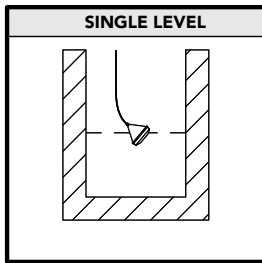
EMPTY CONTROL (FORM A)



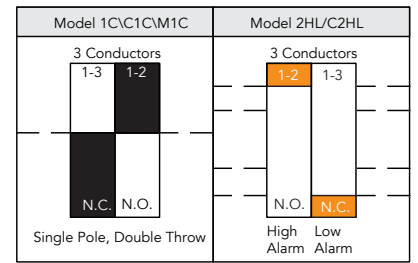
POPULAR MODELS (marked in blue above)

Model Number	Model Description
KA-1H/M1H	One switch, NO
KA-2H/M2H	Two switch, NO, hysteresis
KA-3HE	Three switch, NO, hysteresis, isolated alarm
KA-4H	Four switch, NO, hysteresis, hi/low alarms
KA-4HE	Four switch, NO, hysteresis, duplex control, isolated alarm

FILL CONTROL (FORM B)



OTHER



The diagrams show the action of each Kari float switch model, organized by basic application type. Use the key to interpret each diagram. Contact Automation Products Group, Inc. for help selecting the right model.

POPULAR MODELS (marked in blue above)

Model Number	Model Description
KA-1L/M1L	One switch, NC
KA-2L/M2L	Two switch, NC, hysteresis
KA-4L	Three switch, NC, hysteresis, hi/low alarms

MODEL CONFIGURATION OPTIONS

MODEL NUMBER: KA — — — —
 A B C D

A. Model & Function

Null—Large, **C**—Medium, **M**—Mini

Ex. 1H(Large), C1H (Medium), M1H (Mini)

- ☐ **_1L** Low Alarm
- ☐ **_1H** High Alarm
- ☐ **_1C** High / Low Alarm
- ☐ **_1LE** Dual Low Alarm*
- ☐ **_1HE** Dual High Alarm*

Note: A cable weight does not come with single level floats

Null—Large, **C**—Medium, **M**—Mini

Ex. 2H(Large), C2H (Medium), M2H (Mini)

- ☐ **_2L** Hysteresis Fill Control (Pump Up)
- ☐ **_2H** Hysteresis Empty Control (Pump Down)
- ☐ **_2Y** Empty Control (Pump Down)*
- ☐ **_2A** Fill Control (Pump Up)*

*Function not available with M-Series model.

Null—Large, **C**—Medium

Ex. 3H(Large), C3H (Medium)

- ☐ **_2HL** High and Low Alarm
- ☐ **_3L** Hysteresis Fill + Low Alarm
- ☐ **_3H** Hysteresis Empty + High Alarm
- ☐ **_3Y** Empty Control + High Alarm
- ☐ **_3LE** Hysteresis Fill + Isolated Low Alarm
- ☐ **_3HE** Hysteresis Empty + Isolated High Alarm

Null—Large

Ex. 3Y (Large), only available in large size

- ☐ **3A** Fill Control + Low Alarm
- ☐ **3AE** Fill Control + Isolated Low Alarm
- ☐ **3YE** Empty Control + Isolated High Alarm
- ☐ **4A** Fill + High and Low Alarm (5 conductor)
- ☐ **4L** Hysteresis Fill + High and Low Alarm (4 conductor)
- ☐ **4Y** Empty + High and Low Alarm (5 conductor)
- ☐ **4H** Hysteresis Empty + High and Low Alarm (4 conductor)
- ☐ **4L5E** Duplex Pump Fill + Isolated Low Alarm
- ☐ **4H5E** Duplex Pump Empty + Isolated High Alarm
- ☐ **4Y39** Lead/Lag Pump Control + High and Low Alarm

B. High Temperature Option

- ☐ **(Null)** Standard 130°F (55°C)
- ☐ **K** High Temperature 167°F (75°C)

C. Cable Option

- ☐ **(Null)** PVC
- ☐ **A** Rubber
- ☐ **T** PTFE (Teflon®)
- ☐ **N** TPU (Oil Resistant)

D. Cable Length

- ☐ **(Null)** 16 ft. (5 m) Cable Standard
- ☐ **_L** Specify in meters

Note: Use the **M**-Mini option if no suspended solids are present, the specific gravity of the liquid is greater than 0.95 and no more than two switch points are needed.

KARI ACCESSORIES

Please order separately, by part number.

Description	Part Number
Kari A weight—PP covered 3/4 lbs. (400g)—4.3 in. X 2.2 in.	122039
Kari B weight—PP covered 1 1/2 lbs. (700g)—5.2 in. X 3 in.	122040
Kari C weight—PP covered 2 1/4 lbs. (1Kg)—5.2 in. X 3 in.	122042

Note: Accessories may not carry hazardous area certifications. Please ask our sales team for detailed information on accessory specifications.