



KARUMAN ACE

CURRENT OUTPUT TYPE VORTEX FLOW SENSOR
Type ULK

CE mark applicable (available upon request)

General Description

- No moving parts and simple structure enable high durability and high precision.
- Low pressure drop design ensure to stable measurement at wide ranges.
- It is provided with a pipe connection of large-diameter.



Specifications

Power supply voltage	: 12 to 24V.DC ±10%
Max. working pressure	: 1MPa (at 20°C)
Allowable fluid temperature	: 0 to 50°C
Ambient temperature	: 0 to 50°C
Ambient humidity	: 95%RH or less
External output	: 4 to 20mA
Accuracy	: ±3%FS

Fluid : Water, Warm water, Oil, Sea water and various fluids
(On condition that these fluids do not corrode any materials of main body)

Type Number Selection

Type	Port Size	Main Body Material	Output	Connection Style	O-ring Material	Fitting (receptacle) Specifications			Measurable Flow Range (L/min)	Kinematic Viscosity (mm²/s)	Wt (kg)
						Connection Size	Material	Profile			
ULK-	10	1 (PVC-U)	2 4 to 20mA 2 lead cables without display	P (Pipe)	E (EPDM) F (FKM)	15(1/2)	1 (PVC-U)	S TS Socket	4(3) to 25	2	0.33
	15					20(3/4)			9(7) to 50	3	0.52
	20					25(1)			12(9) to 80	4	0.53
	25					32(1-1/4)			20(16) to 130	5.5	0.56
	32					40(1-1/2)			40(30) to 220	6.5	0.57
	40					50(2)			90(50) to 350	9	0.77
	50								90(80) to 550	12	1.13
											1.70

▪ Numeric values in () in the measuring flow range show those of water (1mm²/s at 20°C)

▪ Kinematic viscosity is a case more than 1.5 mm²/s, please revise it with the next revision type.

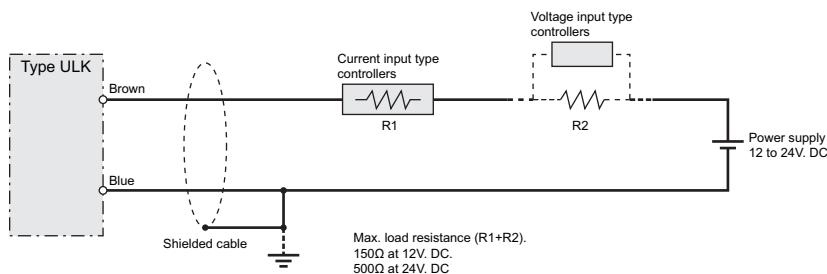
Revision type

32A current revision value(mA) = measurement current value(mA) - (3.376E - 3 × measurement current value(mA) + 8.298E - 2) × kinematic viscosity(mm²/s)

40A current revision value(mA) = measurement current value(mA) - (1.408E - 3 × measurement current value(mA) + 5.946E - 2) × kinematic viscosity(mm²/s)

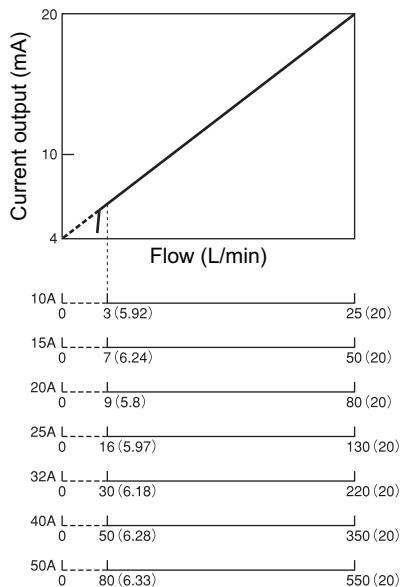
50A current revision value(mA) = measurement current value(mA) + (3.200E - 5 × measurement current value(mA) - 4.414E - 2) × kinematic viscosity(mm²/s)

Wiring Diagram



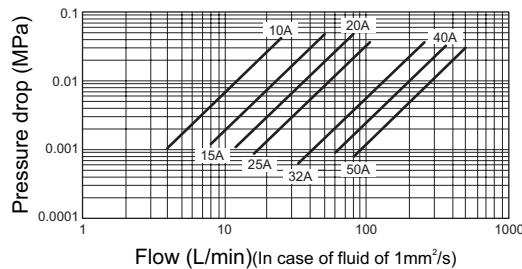
Flow Rate

Flow characteristic

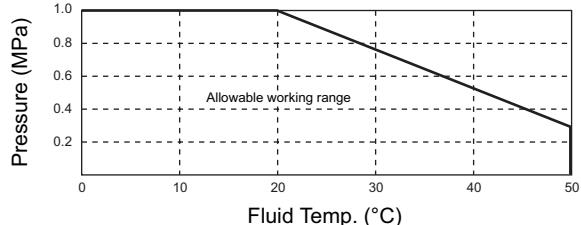


Numeric values in () show current output values(mA).

Pressure drop



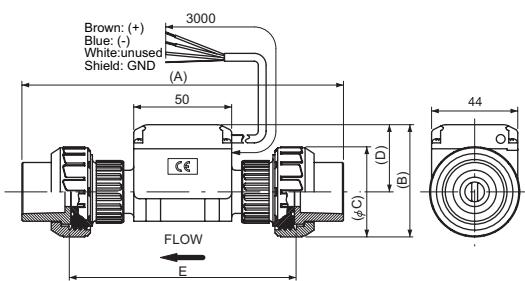
Fluid temperature – Max. working pressure



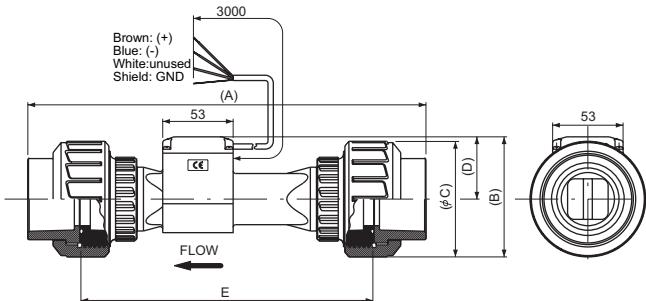
Since the main body is made of resin, the maximum working pressure depends upon the fluid temperature. Use this device within the above allowable working range.

Dimensions

ULK-1012P*151S to 2512P*321S



ULK-3212P*321S to 5012P*501S



Catalog No.	Connection style		Union type connection (TS socket)						
	Size (mm)		A	B	C	D	E		
ULK-	Body	10			15	176	60	35	120
		15				62		37	
		20	200		67	60		130	
		20			71		41		
		25	237		75	68		165	
		25			78		44		
		32	264	85	81			175	
ULK-	Body	32	264	86	81			175	
		40	323			98	45		240
		50	380		120	52	47		

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.	