

VERSATILE LIMITSWITCH

PROFIBUS® DEVICENET® CANOPEN® ASI®

IP68

SIL2



PESO



 **ROTEX**

Engineering For The Future

ROTEX LAUNCHES, THE NEW HIGHLY RELIABLE, ADVANCED VALVE POSITION LIMIT.....

DXLW



NEMA 4, 4X



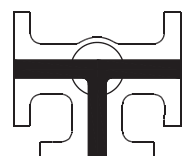
WEATHER PROOF

FEATURES

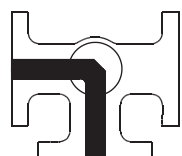
- Aluminium Diecast, Housing and cover with powder coating, for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- A special PCB, eliminates all the wiring from the switch element to the terminals. Complete protection against short circuit.
- Three cable entries are provided as a standard
- Cable entries M20X1.5, 1/2" NPT
- Complies to NAMUR Mounting standards
- Solenoid termination provided inside the switch box
- Additional mounting holes are threaded as per the UNC series
- Range of Mounting Accessories having the compatibility with the various Actuator manufacturers available
- A Stainless Steel bracket is available as an option
- The switch box conforms to the UL508, UL file no. E249752
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request

INDICATOR

The two piece unique indicator, ensures a life long visibility



T-Port



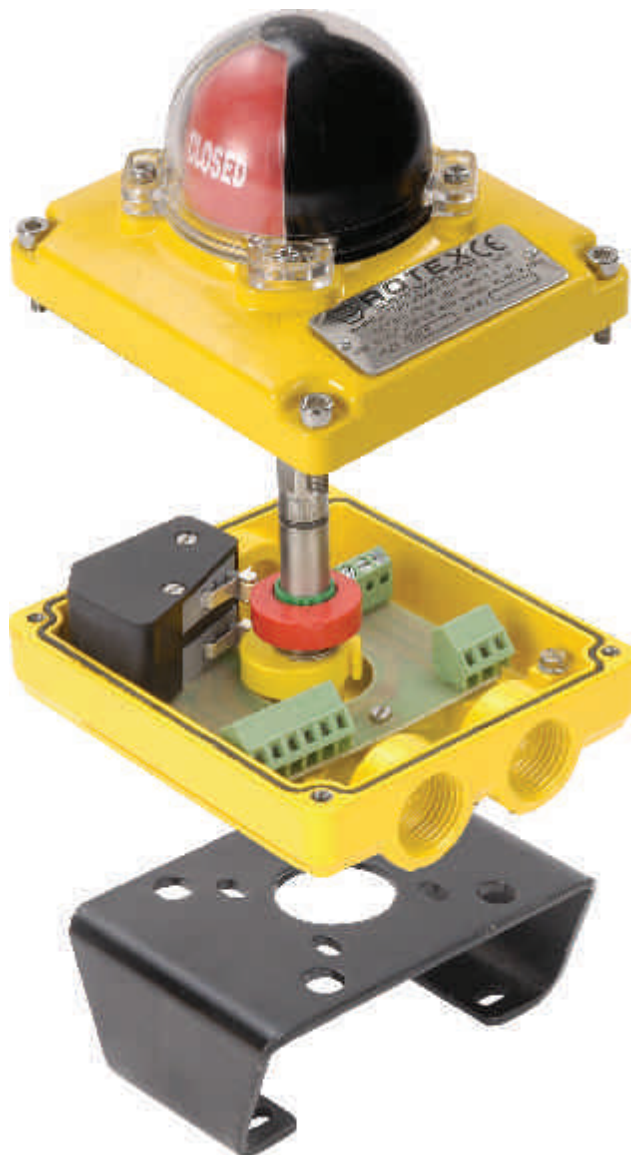
L-Port



Standard Red and Yellow



Optional Red and Green



VERSATILE LIMITSWITCH

SWITCH BOXES, TO ENHANCE THE PERFORMANCE OF THE VALVE AUTOMATION SYSTEMS

DNLF



NEMA 4, 4X, 7 & 9 CLASS I, GROUP C & D,
CLASS II, GROUP E, F & G, DIVISION 1 & 2



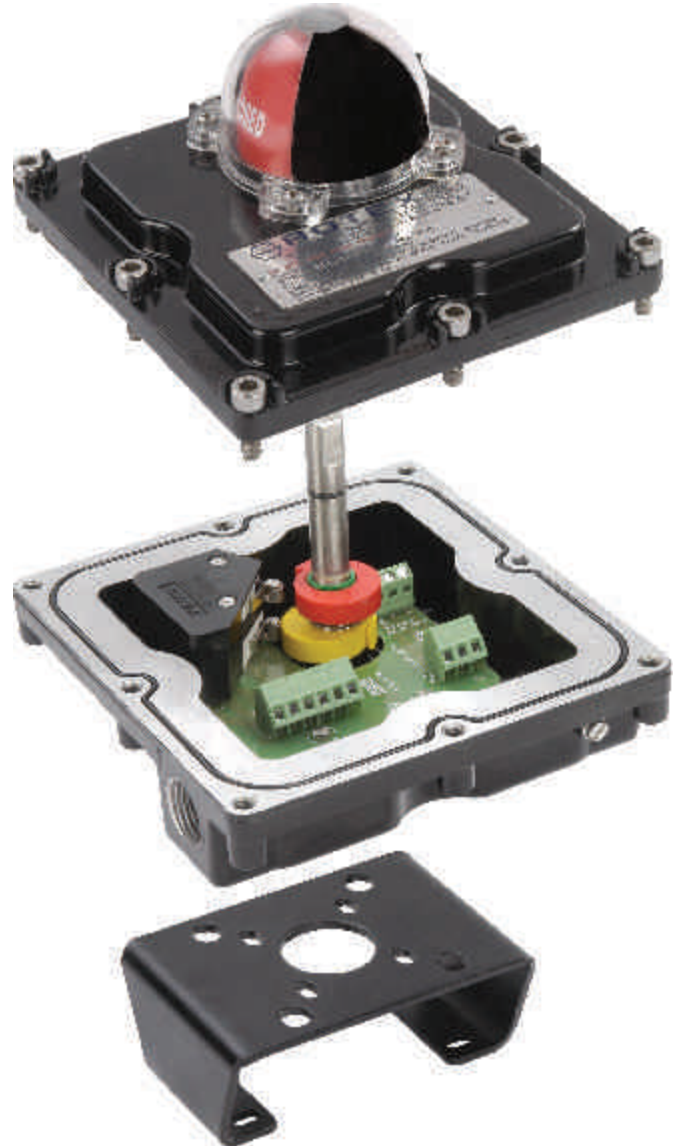
EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



EXPLOSION PROOF

FEATURES

- Aluminium Diecast, with powder coating, for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensure the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable Entry M20, 1/2" NPT or 3/4" NPT
- A special PCB, eliminates all the wiring from the switch element to the terminals. Complete protection against short circuit.
- All fasteners in Stainless Steel
- Additional mounting holes are threaded as per the UNC series
- ATEX, certified by Baseefa United Kingdom Certification no. Baseefa09ATEX0126
- UL Certified conforms to file no. UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



DOME

The Dome is an unique "two piece" arrangement. The Black transparent plastic is the integral part of the dome, ensuring an extra long life



Standard dome



3 Way dome

Only 90° segment is transparent
rest all 270° is black

ROTEX LAUNCHES, THE NEW HIGHLY RELIABLE, ADVANCED VALVE POSITION LIMIT.....

DNLF-B5



NEMA 4, 4X, 7 & 9 CLASS I, GROUP C & D,
CLASS II, GROUP E, F & G, DIVISION 1 & 2



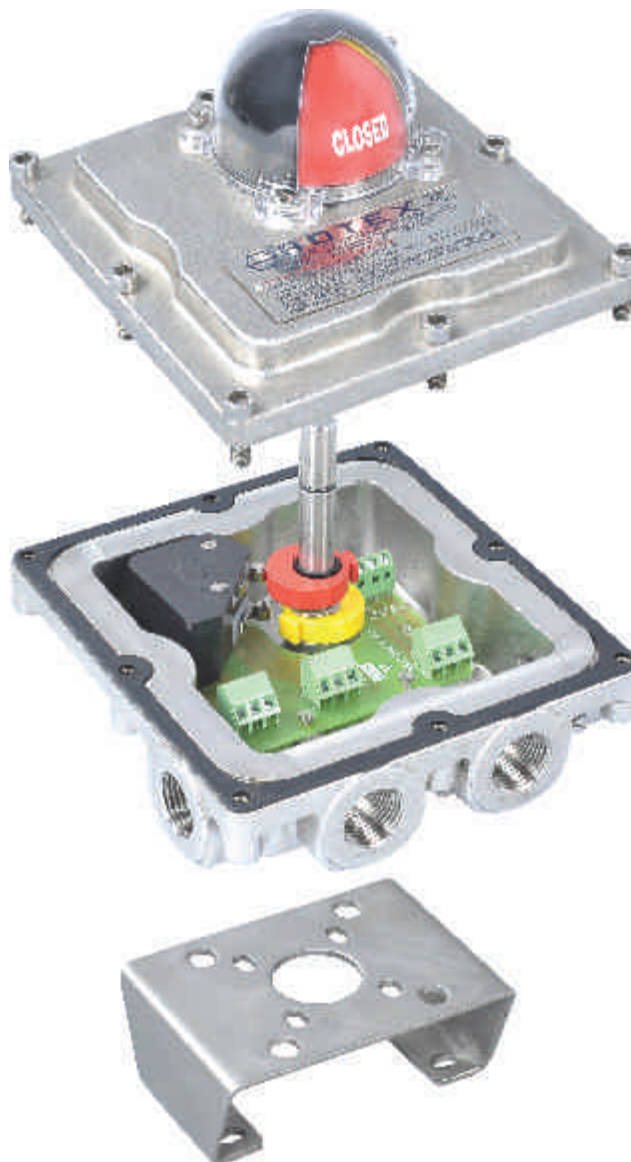
EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



EXPLOSION PROOF

FEATURES

- Stainless Steel CF8M housing and cover
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked Serrated cams, ensures the secured settings against any vibration
- The switch box conforms to Ex d IIC, T6 Highest level of safety
- Cable entry M20, 1/2" NPT or 3/4" NPT
- A special PCB, eliminates all the wiring from the switch element to the terminals. Complete protection against short circuit.
- All fasteners in Stainless Steel
- Additional mounting hole is threaded as per the UNC series
- ATEX, certified by Baseefa United Kingdom Certification no. Baseefa09ATEX0126
- UL Certified conforms to file no. UI1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- Stainless Steel bracket is recommended
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



VERSATILE LIMITSWITCH

SWITCH BOXES TO ENHANCE THE PERFORMANCE OF VALVE AUTOMATION SYSTEMS

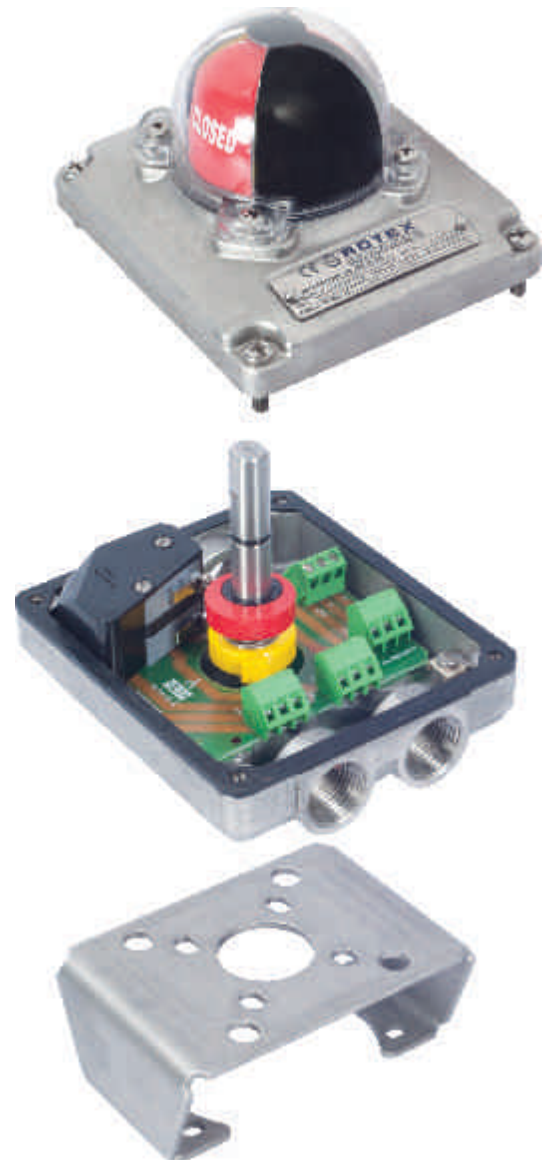
DXLW-B5



WEATHER PROOF

FEATURES

- Stainless Steel CF8M housing and cover for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- A special PCB, eliminates all the wiring from the switch element to the terminals. Complete protection against short circuit.
- Three cable entries are provided as a standard
- Cable entries M20X1.5, 1/2" NPT
- Complies to NAMUR Mounting standards
- Solenoid termination provided inside the switch box
- Additional mounting holes are threaded as per the UNC series
- Range of Mounting Accessories having the compatibility with the various Actuator manufacturers available
- A Stainless Steel bracket is recommended
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ROTEX LAUNCHES, THE NEW HIGHLY RELIABLE, ADVANCED VALVE POSITION LIMITSWITCH

DXLW-B11



WEATHER PROOF

FEATURES

- Engineering plastic, with High impact strength excellent corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- A special PCB, eliminates all the wiring from the switch element to the terminals. Complete protection against short circuit.
- Three cable entries are provided as a standard
- Cable entries M20X1.5, 1/2" NPT
- Complies to NAMUR Mounting standards
- Solenoid termination provided inside the switch box
- Additional mounting holes are threaded as per the UNC series
- Range of Mounting Accessories having the compatibility with the various Actuator manufacturers available
- A Stainless Steel bracket is available as an option
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



VERSATILE LIMITSWITCH

B132, M132, B1, M1, B21, M21

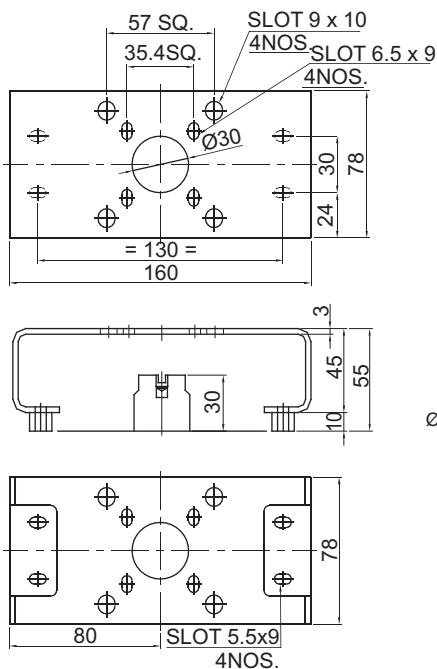
MOUNTING BRACKET



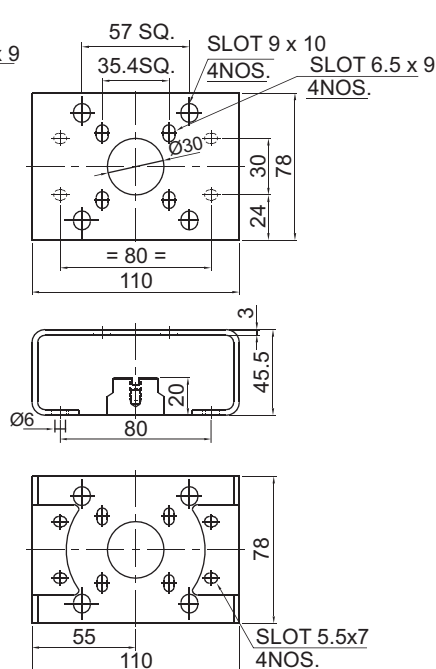
FEATURES

- As per ISO 5211
- 4 Basic varieties of bracket for entire range of Actuators
 - 80 X 30 Height 20, 30
 - 130 X 30 Height 20, 30, 40, 50
- Two different material
 - Mild steel, Formed, Powder coated for general purpose use
 - SS316, formed for high corrosion resistance
- Grade of the material to be chosen on the given application (Consult Rotex, if required)
- Brackets with unique slots along X and Y adjustment for perfect alignment
- For Stainless Steel Limitswitch box, use Stainless Steel brackets

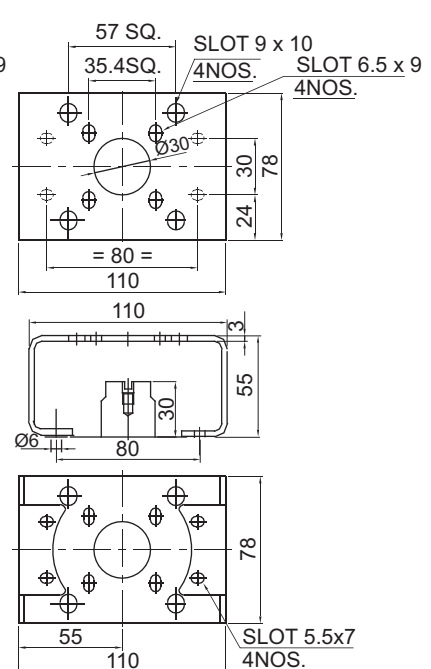
B132, M132



B1, M1



B21, M21



WEATHER PROOF, MICROSWITCH

DXLW1



NEMA 4, 4X



IP67

FEATURES

- Aluminium Diecast, with powder coating, for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated settings cams, ensures the secured setting against any vibration
- A special PCB, eliminates all wiring from the switch element to the terminals. Complete protection against short circuit.
- Three cable entries are provided as a standard
- Cable Entry M20X1.5, 1/2" NPT
- Complies to NAMUR Mounting standard
- Solenoid termination inside the switch box is possible
- Additional mounting hole is threaded as per the UNC series
- Range of Mounting Accessories have compatibility with various Actuator manufacturers available
- Stainless Steel Brackets are available as an option
- The Customer can choose any other V3 configuration Micro Switch
- Certified by UL to UL508, File no. E249752
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DXL	a	b				c	d
TYPE		CODE	MAKE	SWITCH MODEL	RATING	NO. OF ELEMENTS	CABLE ENTRY
WEATHER PROOF W		1A	HONEYWELL	V15S05-CZ100A05-01	5Amp 125 OR 250V AC, 0.1Amp 48V DC, NO/ NC 0.03Amp 250V DC, NO/ NC	1	1/2" NPT (F) 4R
		11A		V7-1C17E9-201	15Amp 125 OR 250V AC, 0.5Amp 125V DC, 0.25Amp 250V DC, NO/ NC	2	M20X1.5 (F) 3M
e		f	g		h	i	j
BODY AND COVER		COLOUR	INDICATOR		TEMPERATURE RANGE	BRACKET	CERTIFICATES
ALUMINIUM *		BLACK *	RED AND YELLOW *		-20 °C to +80 °C *	REFER PAGE 39	CE *
CF8M B5		BLUE B	RED AND GREEN G		-40 °C to +120 °C LTHT		UL U
PLASTIC B11			3 WAY L PORT 3L 3 WAY T PORT 3T		-60 °C to +80 °C LTL		

ORDERING EXAMPLE

- DXLW-1A2-4R-B1
- Weather proof switch box is provided, with Honeywell 5 Amp switches 2 nos, each, with 1 NO and 1 NC, use 5 Amps Max. 1/2" NPT cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and a 20mm pinion height

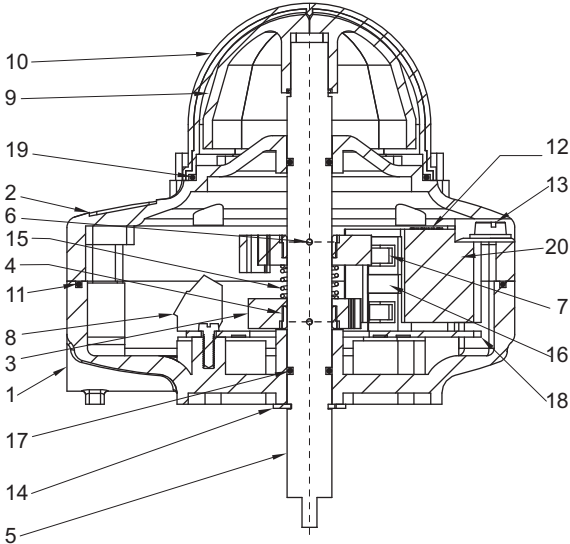
VERSATILE LIMITSWITCH

DXLW1

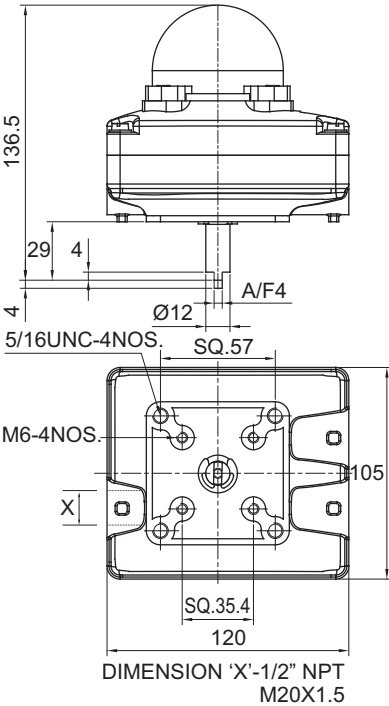
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY
2	COVER	1	ALUMINIUM ALLOY
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	MICROSWITCH (SPDT)	2	HONEYWELL
8	THREE WAY TERMINAL BLOCK	4	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR MICROSWITCH	2	STAINLESS STEEL
13	NON FALLING SCREW	4	STAINLESS STEEL
14	'E' TYPE CIRCLIP	1	SPRING STEEL
15	SPRING	1	STAINLESS STEEL
16	PAD	1	POLYAMIDE
17	O-RING	2	NBR
18	PRINTED CIRCUIT BOARD	1	-
19	O-RING	1	NBR
20	COVER FOR MICROSWITCH	1	POLYAMIDE

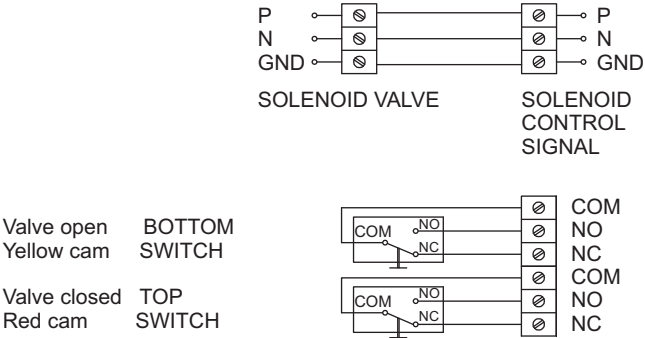
CROSS SECTION



DIMENSIONS (In mm)



WIRING DIAGRAM



EXPLOSION PROOF, MICROSWITCH

DNLF1



NEMA 4, 4X, 7 & 9

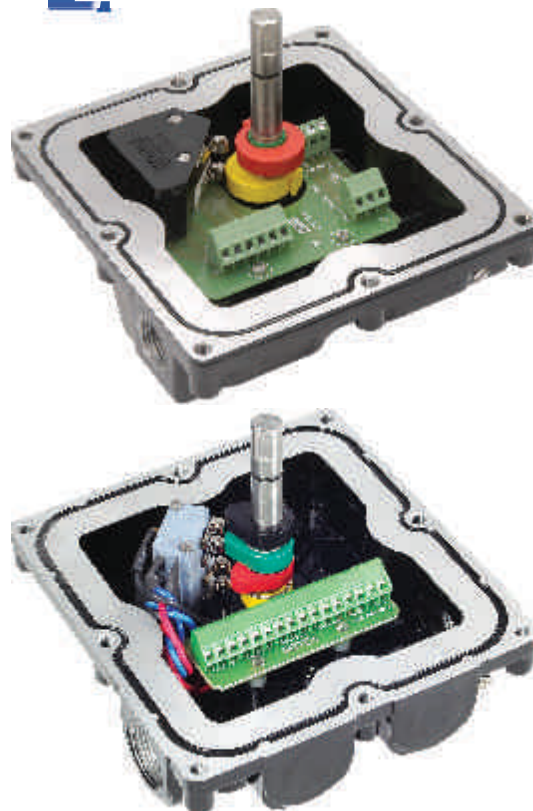


EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



FEATURES

- Explosion proof to I, IIA, IIB, and IIC
- As per UL1203 and UL508, File no. E246615
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable entries M20, 1/2" NPT, or 3/4" NPT
- All fasteners are in Stainless Steel
- Additional mounting hole is threaded as per the UNC series
- The customer can choose any other V3 mounting micro switch. Current above 10 Amp PCB will not be provided
- ATEX, certified by Baseefa United Kingdom Certification no. Baseefa09ATEX0126
- UL Certified, conforms to UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DNL	a	b				c	d	
TYPE		CODE	MAKE	SWITCH MODEL	RATING	NO. OF ELEMENTS	CABLE ENTRY	
Ex PROOF IIA, IIB, IIC F		1A	HONEYWELL	V15S05-CZ100A05-01	5Amp 125 OR 250V AC, 0.1Amp 48V DC, NO/ NC 0.03Amp 250V DC, NO/ NC	1	1/2"NPT (F)	4R
		11A		V7-1C17E9-201	15Amp 125 OR 250V AC, 0.5Amp 125V DC, 0.25Amp 250V DC, NO/ NC	2	3/4" NPT (F)	6R
						3	M20X1.5 (F)	3M
						4		
e		f		g	h	i	j	k
BODY AND COVER		COLOUR		INDICATOR		TEMPERATURE RANGE		CABLE ENTRY
ALUMINIUM *		BLACK *		RED AND YELLOW *		-20 °C to +80 °C *		DUAL *
CF8M B5		BLUE B		RED AND GREEN G		-40 °C to +120 °C LTHT		4 ENTRY 4Q
				3 WAY L PORT 3L		-60 °C to +80 °C LTL		
				3 WAY T PORT 3T				

Note : (1) For CMRI and DGMS IIA, IIB Certificate will be applicable
(2) CCOE Certificate with KLPL test report

ORDERING EXAMPLE

- DNLF-11A2-4R-B1-D
- Explosion proof to I, IIA, IIB and IIC and Weather proof is provided with Honeywell 15 Amp switches 2 nos, each with 1 NO and 1 NC, 1/2" NPT cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and for 20mm pinion height with DGMS certificate

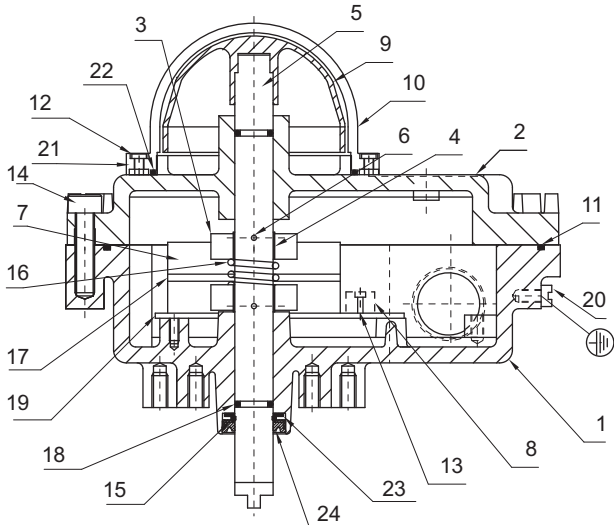
VERSATILE LIMITSWITCH

DNLF1

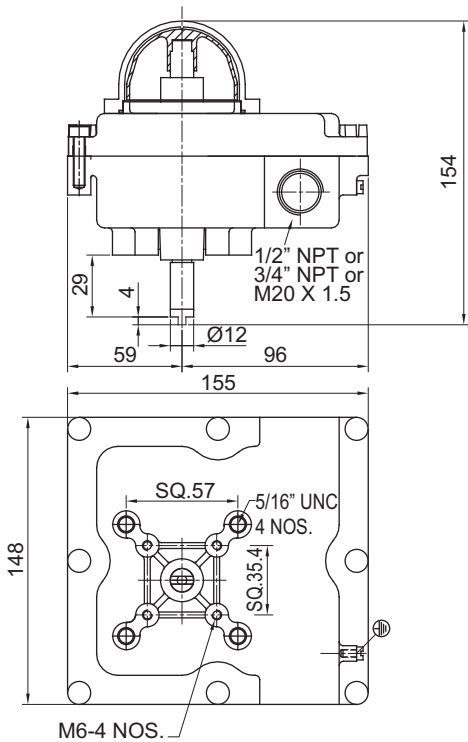
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELIRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	MICROSWITCH (SPDT)	2	HONEYWELL
8	CONNECTOR STRIP-6 WAY	1	POLYAMIDE
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR MICROSWITCH	2	STAINLESS STEEL
13	SCREW FOR CONN. STRIP	2	STAINLESS STEEL
14	NON FALLING SCREW	8	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	PAD	1	POLYAMIDE
18	O-RING	2	NBR
19	PRINTED CIRCUIT BOARD	1	-
20	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
21	PHILIPS HEAD SCREW	4	STAINLESS STEEL
22	O-RING	1	NBR
23	WASHER	1	SS304
24	CUP SEAL	1	NBR

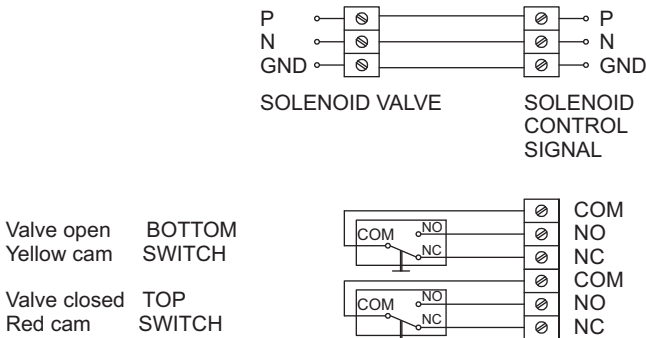
CROSS SECTION



DIMENSIONS (In mm)



WIRING DIAGRAM



WEATHER PROOF, CYLINDRICAL SENSOR

DXLW2

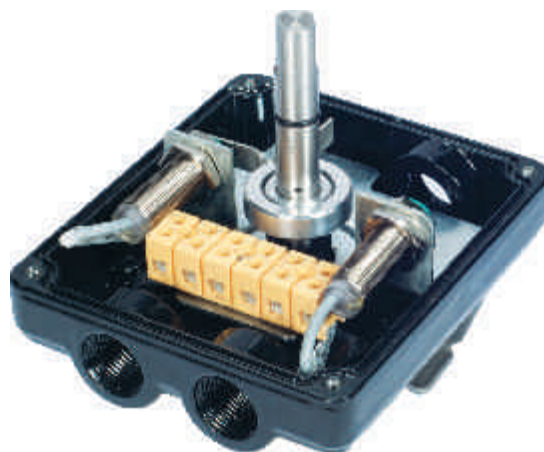


INDESTRUCTIBLE INDUCTIVE PROXIMITY LIMIT SWITCH

Innovative solution fool-proofs the switch operation & prevents damage either of the cam or the Switch while offering the most compact mounting dimensions.

FEATURES

- Aluminium Diecast, with powder coating for superior corrosion resistance
- Shatterproof polycarbonate Dome
- Easily settable colour coded cam
- P&F cylindrical inductive proximity Sensors (E
- The proximity switches are available in NAMUR and NO/ NC type
- Customer can choose proximity switch from wide choice
- Three cable entries provided are standard
- Cable entries M20X1.5, 1/2" NPT
- Complies to NAMUR Mounting standards
- Additional mounting accessories have compatibility with various actuator manufacturers available
- Stainless Steel bracket available as an option
- Switch box conforms to UL508, UL file no. E249752
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request
- Special proximity switch can be installed on request



ORDERING OPTIONS

DXL	a	b				c	d	
TYPE		CODE	MAKE	SWITCH MODEL	RATING	NO. OF ELEMENTS	CABLE ENTRY	
WEATHER PROOF W		2A	P & F	NJ2-12-GM-N	8V DC, NC	1	1/2"NPT (F)	4R
		12A		NCB2-12GM35-NO	8V DC, NC		2	M20X1.5 (F)
		22A		NBN4-12GM40-ZO	5-60V, 100mA, NO			
		32A		NCN4-12GM35-NO	8V DC, NC			
		302A		NJ4-12GM50-WS	20-253V AC, 200mA 50Hz, 60Hz, NO			
		22A		NJ5-18GM-N	8V DC, NC			
		282A		NBB5-18GM50-ZO	6-60V DC, 100mA,NO			
		292A		NJ4-12GK-N	8V DC, NC			
		2C	ifm	NF5003	8V DC, NC			
		12C		IF5718	10-36V DC, 150mA, NO			
e	f	g		h		i	j	
BODY AND COVER	COLOUR	INDICATOR		TEMPERATURE RANGE		BRACKET	CERTIFICATES	
ALUMINIUM ✕	BLACK ✕	RED AND YELLOW ✕		-20 °C to +80 °C ✕		REFER PAGE 39	CE U _L	✕ U
CF8M B5	BLUE B	RED AND GREEN G		-40 °C to +120 °C LTHT				
PLASTIC B11		3 WAY L PORT 3L		-60 °C to +80 °C LTL				
		3 WAY T PORT 3T						

ORDERING EXAMPLE

- DXLW-12A2-4R-B-U
- UL approved, a weather proof box provided, with PEPPERL+FUCHS switches 2 nos, 8V DC out put, each with 1 NC, 1/2" cable gland entry. A Stainless Steel bracket. suitable for 80X30 tapping and for 20mm pinion height

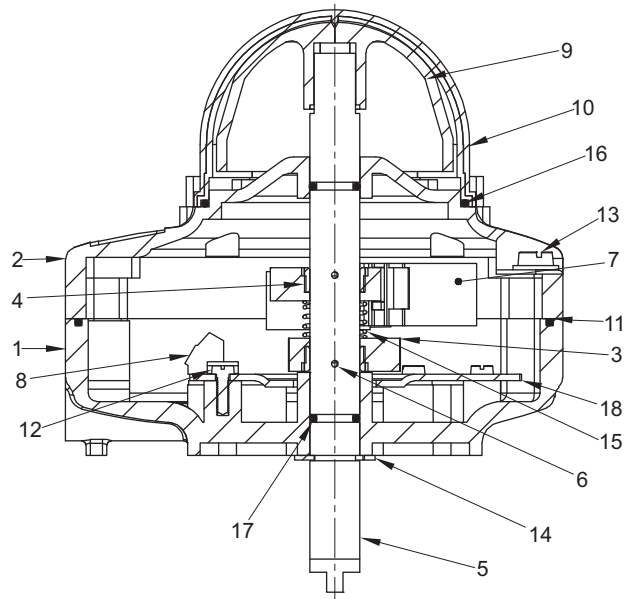
VERSATILE LIMITSWITCH

DXLW2

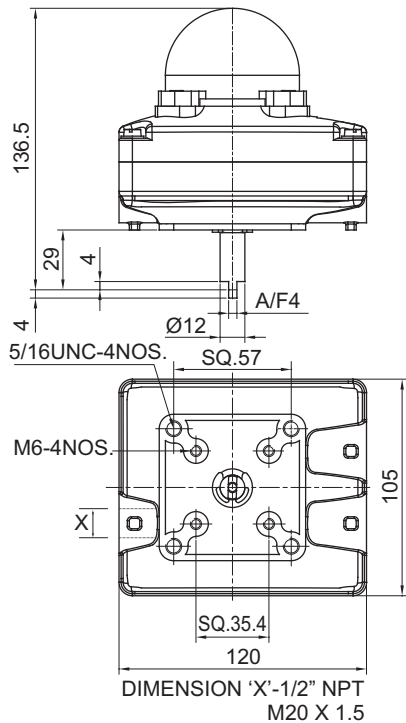
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY
2	COVER	1	ALUMINIUM ALLOY
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELFIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	PROXIMITY SENSOR	2	P & F, ifm
8	THREE WAY TERMINAL BLOCK	4	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR BRACKET	2	STAINLESS STEEL
13	NON FALLING SCREW	4	STAINLESS STEEL
14	'E' TYPE CIRCLIP	1	SPRING STEEL
15	SPRING	1	STAINLESS STEEL
16	O-RING	1	NBR
17	O-RING	2	NBR
18	PRINTED CIRCUIT BOARD	1	-

CROSS SECTION



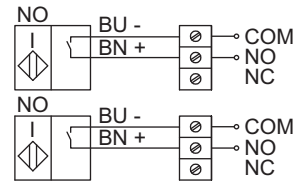
DIMENSIONS (In mm)



WIRING DIAGRAM

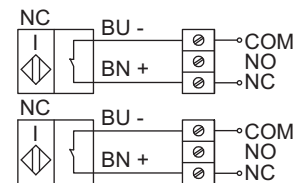
2 WIRE PROXIMITY-NO

Valve open BOTTOM
 Yellow cam SWITCH
 Valve closed TOP
 Red cam SWITCH



2 WIRE PROXIMITY-NC

Valve open BOTTOM
 Yellow cam SWITCH
 Valve closed TOP
 Red cam SWITCH



EXPLOSION PROOF, CYLINDRICAL SENSOR

DNLF2



EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1

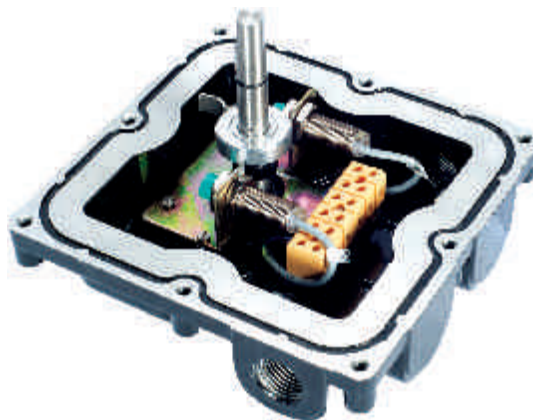


INDESTRUCTIBLE INDUCTIVE PROXIMITY LIMIT SWITCH

Innovative solution fool-proofs the switch operation & prevents damage either of the cam or the Switch while offering the most compact mounting dimensions.

FEATURES

- Aluminium Diecast, with powder coating, for superior corrosion resistance
- Shatterproof polycarbonate Dome
- Easily settable colour coded cam
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- P&F cylindrical inductive proximity sensors
- Up to Maximum 2 Sensor Elements
- Explosion proof to I, IIA, IIB and IIC
- Proximity switches are available in NAMUR and NO/ NC type
- The customer can choose any M12 proximity switch
- Cable entries M20, 1/2" NPT or 3/4" NPT
- All fasteners in Stainless Steel
- ATEX, Certified by Baseefa United Kingdom, Certification no. Bassefa09ATEX0126
- UL Certified, conforms UL1203 and UI508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable Entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DNL		a	b				c	d
TYPE		CODE	MAKE	PROXIMITY SWITCH MODEL	RATING		NO. OF ELEMENTS	CABLE ENTRY
Ex PROOF IIA, IIB, IIC F		2A		NJ2-12GM-N	8V DC, NC		1	1/2"NPT (F) 4R
		12A		NCB2-12GM35-NO	8V DC, NC		2	3/4"NPT (F) 6R
		22A		NBN4-12GM40-ZO	5-60V, 100mA, NO		3	M20X1.5 (F) 3M
		32A		NCN4-12GM35-NO	8V DC, NC		4	
		302A	P & F	NJ4-12GM50-WS	20-253V AC, 200mA 50Hz, 60Hz, NO			
		82A		NJ5-18GM-N	8V DC, NC			
		282A		NBB5-18GM50-ZO	6-60V DC, 100mA, NO			
		892A		NJ4-12GK-N	8V DC, NC			
		2C	ifm	NF5003	8V DC, NC			
		12C		IF5718	10-36V DC, 150mA, NO			
e	f	g		h		i	j	k
BODY AND COVER	COLOUR	INDICATOR		TEMPERATURE RANGE		CABLE ENTRY	BRACKET	CERTIFICATES
ALUMINIUM ✕	BLACK ✕	RED AND YELLOW ✕		-20 °C to +80 °C ✕		DUAL ✕	REFER	BIS ✕
CF8M B5	BLUE B	RED AND GREEN G		-40 °C to +120 °C LTHT		4 ENTRY 4Q	PAGE 39	CMRI C
		3 WAY L PORT 3L		-60 °C to +80 °C LTL				ATEX A
		3 WAY T PORT 3T						UL U
								CCOE CC
								INMETRO I
								GOST G
								DGMS D

Note : (1) For CMRI and DGMS IIA, IIB Certificate will be applicable
(2) CCOE Certificate with KLPL test report

ORDERING EXAMPLE

- DNLF-12A2-4R-B1-U
- UL approved, Explosion proof to UL1203 and UL528, and a weather proof box is provided with PEPPERL+FUCHS switches 2 nos, 8V DC out put, each with 1 NC, 1/2" cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and for 20mm pinion height

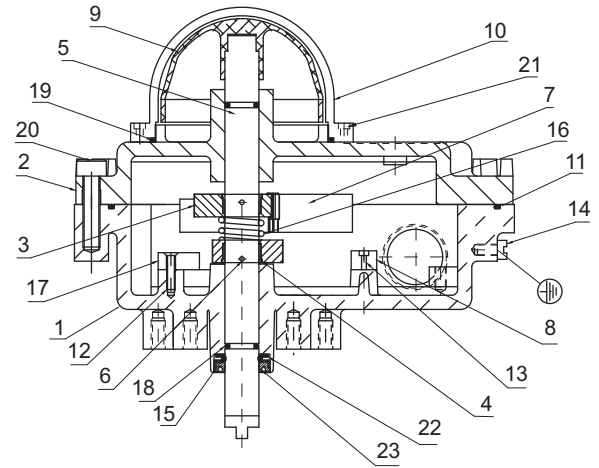
VERSATILE LIMITSWITCH

DNLF2

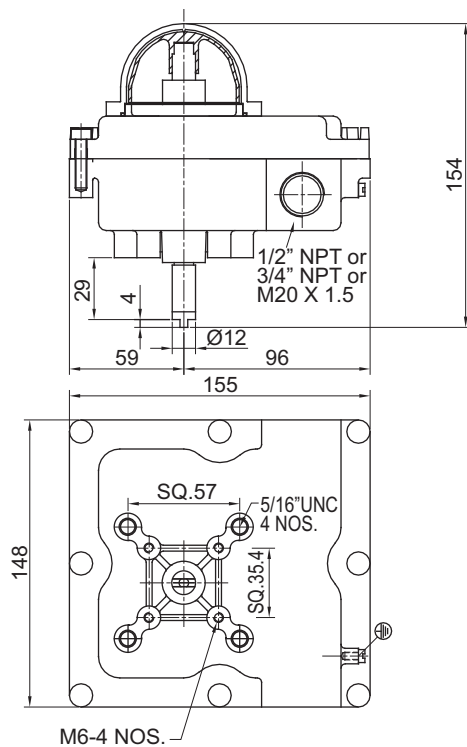
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELTRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	PROXIMITY SENSOR	2	P & F, ifm
8	TERMINAL BLOCK-6 WAY	1	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR BRACKET	2	STAINLESS STEEL
13	SCREW FOR CONN. STRIP	2	STAINLESS STEEL
14	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	BRACKET	1	M.S.
18	O-RING	2	NBR
19	O-RING	1	NBR
20	NON FALLING SCREW	8	STAINLESS STEEL
21	PHILIPS HEAD SCREW	4	STAINLESS STEEL
22	WASHER	1	SS304
23	CUP SEAL	1	NBR

CROSS SECTION



DIMENSIONS (In mm)

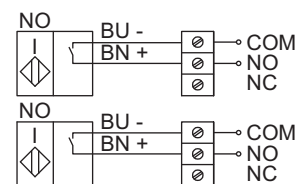


WIRING DIAGRAM

2 WIRE PROXIMITY-NO

Valve open BOTTOM
Yellow cam SWITCH

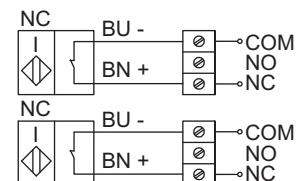
Valve closed TOP
Red cam SWITCH



2 WIRE PROXIMITY-NC

Valve open BOTTOM
Yellow cam SWITCH

Valve closed TOP
Red cam SWITCH



WEATHER PROOF, FLAT SENSOR

DXLW3



FEATURES

- Weather Proof enclosure, IP67
- P&F flat type inductive proximity Sensors (
- Up to Maximum 2 Sensor Elements
- Aluminium diecast, with powder coating, for superior corrosion resistance
- Shatterproof polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated settings cams, ensures the secured setting against any vibration
- Special PCB eliminates all wiring from the switch element to the terminals. Complete protection against short circuit.
- Three cable entries provided as a standard
- Cable entries M20 X 1.5, 1/2" NPT
- Complies to NAMUR Mounting standards
- Solenoid termination inside the switch box is possible
- Proximity switches are available in NAMUR and NO/ NC type
- The customer can choose any flat V3 proximity switch
- Additional mounting hole is threaded as per the UNC series
- Range of mounting accessories having compatibility with various actuator manufactures available
- Stainless Steel bracket available as an option
- Switch box conforms to UL508, UL file no. E249752
- Temperature range -20 °C to +80 °C
- On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DXL	a	b				c	d
	TYPE	CODE	MAKE	SWITCH MODEL	RATING	NO. OF ELEMENTS	CABLE ENTRY
	WEATHER PROOF W	3A	P & F	NJ2-V3-N	8V DC, 3mA, NC	1	1/2"NPT (F) 4R
		13A		NBB3-V3-Z4	10-60V DC, 100mA, NO		M20X1.5 (F) 3M
		3C	ifm	IS5026	5-36V DC, 200mA, OPTIONAL NO/ NC	2	
		13C		NS5002	8V DC, NC		
		23C		IN0073	20-250V AC/ DC, NO		

e	f	g	h	i	j
BODY AND COVER	COLOUR	INDICATOR	TEMPERATURE RANGE	BRACKET	CERTIFICATES
ALUMINIUM ✕	BLACK ✕	RED AND YELLOW ✕	-20 °C to +80 °C ✕	REFER PAGE 39	CE ✕
CF8M B5	BLUE B	RED AND GREEN G	-40 °C to +120 °C LTHT		UL U
PLASTIC B11		3 WAY L PORT 3L	-60 °C to +80 °C LTL		
		3 WAY T PORT 3T			

Note : (1) The range is not limited to ones listed above. Other versions can be offered as per the requirement
(2) Does not require an Exproof enclosure as a standard

ORDERING EXAMPLE

- DXLW-13A2-4R-B1-U
- UL approved, Explosion proof to UL1203 and UI528, and a weather proof box is provided with PEPPERL+FUCHS switches 2 nos, 10-60V DC out put, each with 1 NO, 1/2" cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and for 20mm pinion height

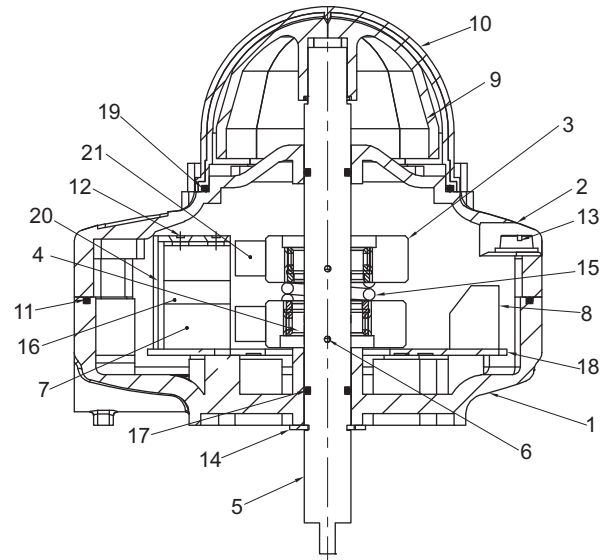
VERSATILE LIMITSWITCH

DXLW3

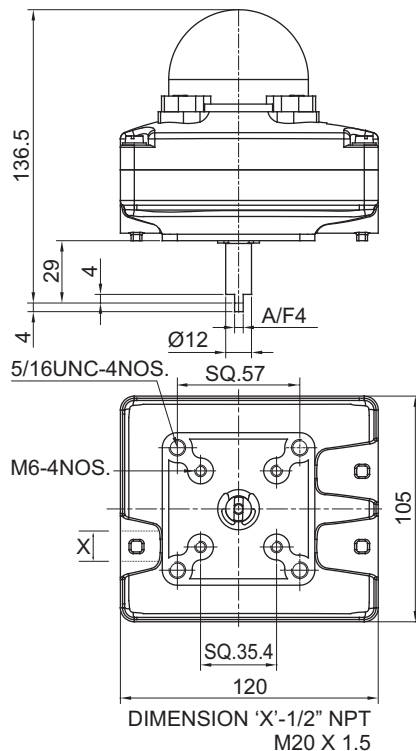
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY
2	COVER	1	ALUMINIUM ALLOY
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELTRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	PROXIMITY SENSOR	2	P & F, ifm
8	THREE WAY TERMINAL BLOCK	4	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR MICROSWITCH	2	STAINLESS STEEL
13	NON FALLING SCREW	2	STAINLESS STEEL
14	'E' TYPE CIRCLIP	1	SPRING STEEL
15	SPRING	1	STAINLESS STEEL
16	PAD	1	POLYAMIDE
17	O-RING	2	NBR
18	PRINTED CIRCUIT BOARD	1	-
19	O-RING	1	NBR
20	COVER FOR MICROSWITCH	1	POLYAMIDE
21	CAP FOR SENSOR	2	STAINLESS STEEL

CROSS SECTION

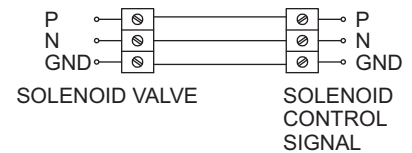


DIMENSIONS (In mm)



WIRING DIAGRAM

2 WIRE PROXIMITY-NO

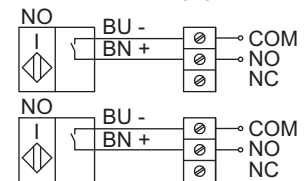


Valve open
Yellow cam

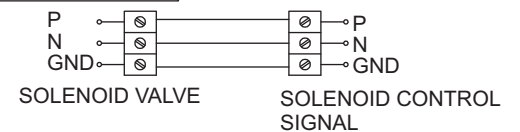
BOTTOM
SWITCH

Valve closed
Red cam

TOP
SWITCH



2 WIRE PROXIMITY-NC

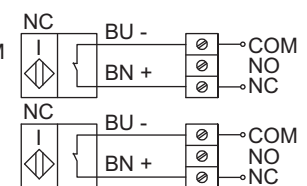


Valve open
Yellow cam

BOTTOM
SWITCH

Valve closed
Red cam

TOP
SWITCH



EXPLOSION PROOF, FLAT SENSOR

DNLF3



EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



FEATURES

- Flat inductive proximity sensors
- Aluminium diecast, with powder coating, for superior corrosion resistance
- Aweatherproof enclosure to IP67
- A switch box conforms to Ex d IIC, T6 highest level of safety
- Explosion proof to I, IIA, IIB, and IIC
- ATEX certified by Baseefa United Kingdom, Certification no. Baseefa09ATEX0126
- ATEX as per EN/ IEC 60079
- UL Certified, conforms to UL1203 & UL508, File no. 246615
- Shatterproof Polycarbonate Dome
- Red and yellow indicator
- Color coded cams easy to identify, and easy to set
- Solenoid termination inside the switch box, is standard
- The locked serrated settings cams, ensures the secured setting against any vibration
- Conduit entry options 1/2" NPT 3/4" NPT, M20 X1.5
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Bracket available as an option
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DNL	a	b				c	d	
TYPE		CODE	MAKE	SWITCH MODEL	RATING	NO. OF ELEMENTS	CABLE ENTRY	
Ex PROOF IIA, IIB, IIC F		3A	P & F	NJ2-V3-N	8V DC, 3mA, NC	1	1/2"NPT (F)	4R
		13A		NBB3-V3-Z4	10-60V DC, 100mA, NO	2	3/4"NPT (F)	6R
		3C	ifm	IS5026	5-36V DC, 200mA, OPTIONAL NO/ NC	3	M20X1.5 (F)	3M
		13C		NS5002	8V DC, NC	4		
		23C		IN0073	20-250V AC/ DC			

- Note : (1) The range is not limited to ones listed above.
Other versions can be offered as per the requirement
- (2) Does not require an Exproof enclosure as a standard

ORDERING EXAMPLE

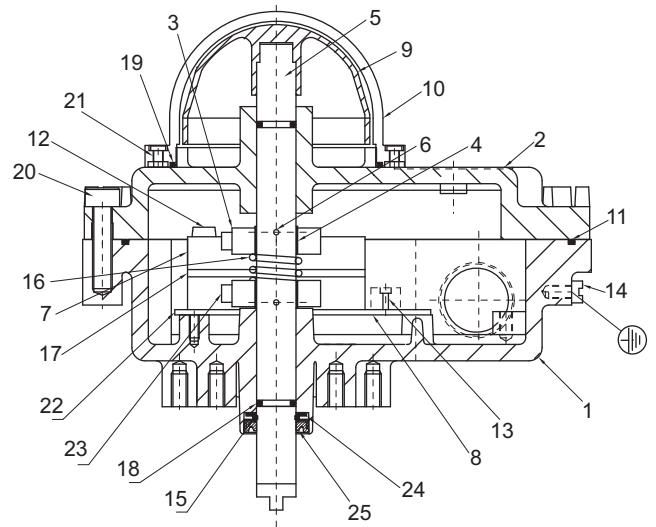
- DNLF-13A2-4R-B1-U
- UL approved, Explosion proof to UL1203 and UL528, and a weather proof box is provided with PEPPERL+FUCHS switches 2 nos, 10-60V DC out put, each with 1 NO, 1/2" cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and for 20mm pinion height

DNLF3

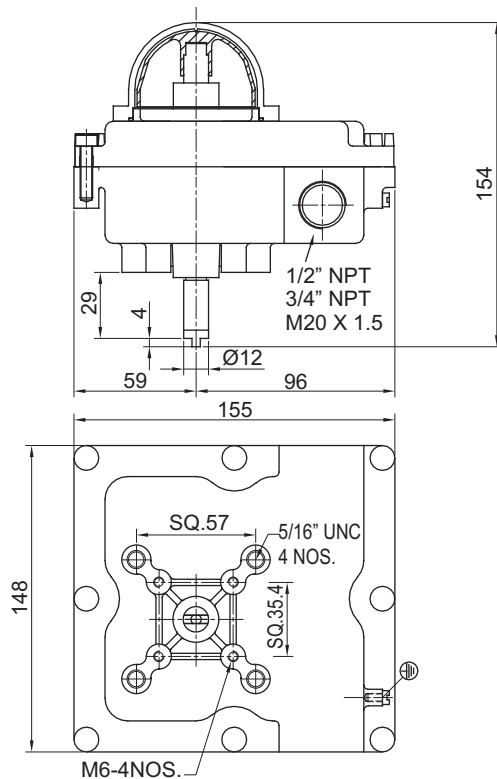
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	PROXIMITY SENSOR	2	P & F, ifm
8	TERMINAL BLOCK-6 WAY	1	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	ABS PLASTIC
12	SCREW FOR PROXIMITY	2	STAINLESS STEEL
13	SCREW FOR CONN. STRIP	2	STAINLESS STEEL
14	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	BRACKET	1	M.S.
18	O-RING	2	NBR
19	O-RING	1	NBR
20	NON FALLING SCREW	8	STAINLESS STEEL
21	PHILIPS HEAD SCREW	4	STAINLESS STEEL
22	PRINTED CIRCUIT BOARD	1	-
23	CAP FOR SENSOR	2	STAINLESS STEEL
24	WASHER	1	SS304
25	CUP SEAL	1	NBR

CROSS SECTION

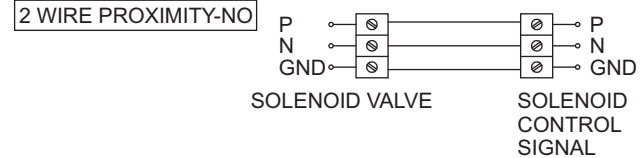


DIMENSIONS (In mm)

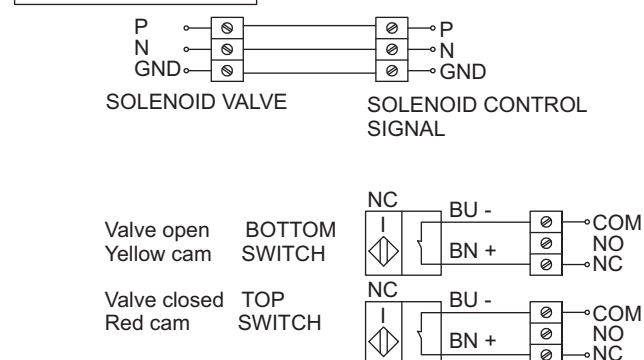


WIRING DIAGRAM

2 WIRE PROXIMITY-NO



2 WIRE PROXIMITY-NC



WEATHER PROOF, SLOT SENSOR

DXLW4



FEATURES

- Weather Proof enclosure, IP67
- P&F slot type inductive proximity Sensors
- Up to Maximum 2 Sensor Elements
- Aluminium diecast, with powder coating, for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Special PCB eliminates all wiring from the switch element to the terminals. Complete protection against short circuit.
- Three cable entries provided as a standard
- Cable entries M20 X 1.5, 1/2" NPT
- Proximity switches available in NAMUR
- Complies to NAMUR Mounting standards
- Solenoid termination inside the switch box is possible
- Additional mounting holes are threaded as per the UNC series
- Range of mounting accessories having compatibility with various actuator manufacturers available
- Stainless Steel bracket available as an option
- Switch box conforms to UL508, UL file no. E249752
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DXL	a	b	c	d
TYPE	CODE	MAKE	SWITCH MODEL	RATING
WEATHER PROOF W	4A	P & F	SJ3.5-N	8V DC, NC
			NO. OF ELEMENTS	CABLE ENTRY
			1	1/2"NPT (F) 4R
			2	M20X1.5 (F) 3M
e	f	g	h	i
BODY AND COVER	COLOUR	INDICATOR	TEMPERATURE RANGE	BRACKET
ALUMINIUM ✕	BLACK ✕	RED AND YELLOW ✕	-20 °C to +80 °C ✕	REFER PAGE 39
CF8M B5	BLUE B	RED AND GREEN G	-40 °C to +120 °C LTHT	
PLASTIC B11		3 WAY L PORT 3L	-60 °C to +80 °C LTL	
		3 WAY T PORT 3T		
				CERTIFICATES
				CE ✕
				UL U

Note : (1) The range is not limited to ones listed above. Other versions can be offered as per the requirement
(2) Does not require an Exproof enclosure as a standard

ORDERING EXAMPLE

- DXLW-4A2-4R-B1-U
- UL approved, Explosion proof to UL1203 and UL528, and a weather proof box is provided with PEPPERL+FUCHS switches 2 nos, 8V DC out put, each with 1 NC, 1/2" cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and for 20mm pinion height

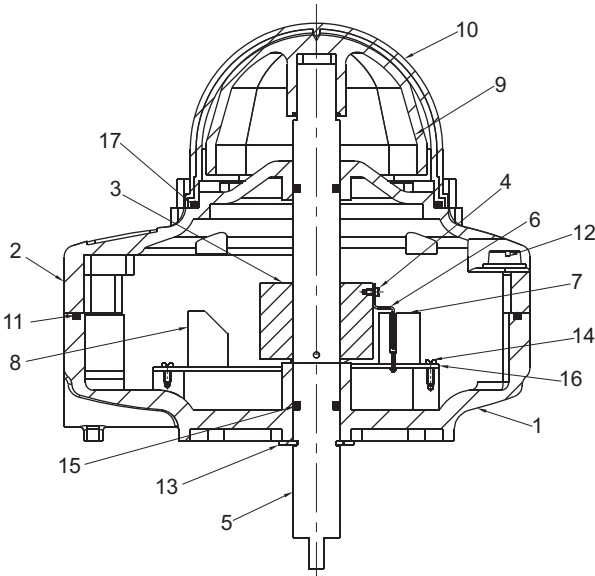
VERSATILE LIMITSWITCH

DXLW4

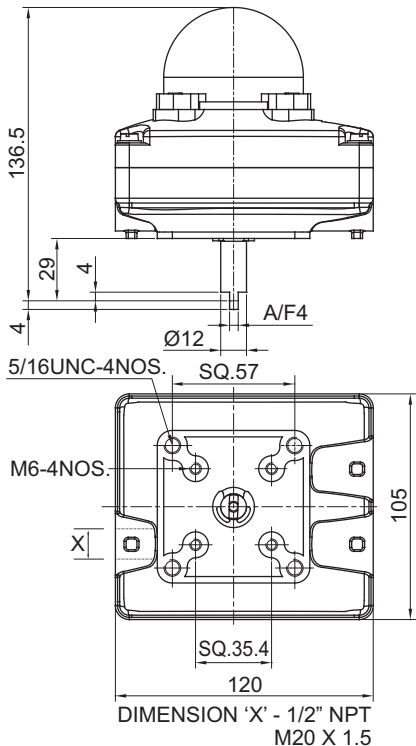
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY
2	COVER	1	ALUMINIUM ALLOY
3	CAM	1	ALUMINIUM
4	SCREW FOR CAM	2	STAINLESS STEEL
5	SHAFT	1	STAINLESS STEEL
6	SENSOR PLATE	1	MILD STEEL
7	PROXIMITY SENSOR	2	P & F, ifm
8	THREE WAY TERMINAL BLOCK	4	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	NON FALLING SCREW	4	STAINLESS STEEL
13	'E' TYPE CIRCLIP	1	SPRING STEEL
14	SCREW FOR PCB	2	STAINLESS STEEL
15	O-RING	2	NBR
16	PRINTED CIRCUIT BOARD	1	-
17	O-RING	1	NBR

CROSS SECTION

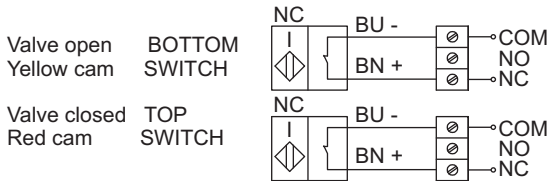
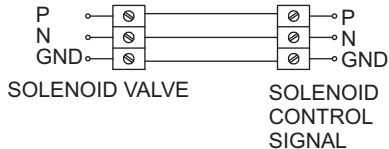


DIMENSIONS (In mm)



WIRING DIAGRAM

2 WIRE PROXIMITY-NC



EXPLOSION PROOF, DPDT, MICROSWITCH

DNLF5

DXLW5

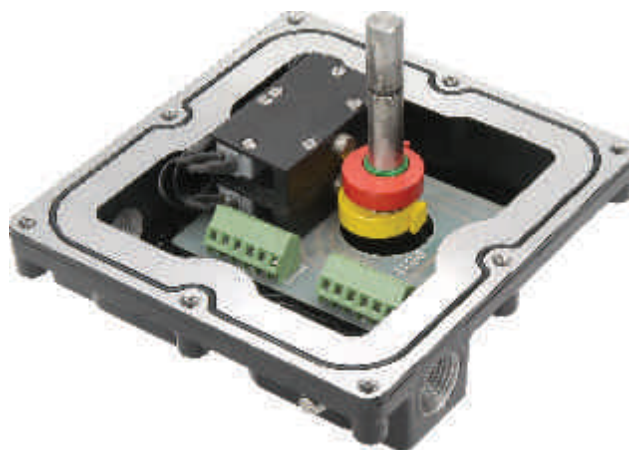


EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



FEATURES

- Explosion proof enclosure Gr IIA, IIB and IIC is available as an option
- Honeywell/ Cherry Microwitch Sensors
- Up to Maximum 4 Sensor Elements
- Exproof to I, IIA, IIB, and IIC
- ATEX EX d IIC, T6
- Aluminium Diecast, with powder coating, for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable Entry M20, 1/2" NPT or 3/4" NPT
- Special PCB eliminates all wiring from the switch element to the terminals. Complete protection against short circuit
- All fasteners are in Stainless Steel
- Customer can choose any DPDT switch
- Additional mounting hole to the UNC series
- ATEX, Certified by Baseefa United Kingdom, Certification no.Baseefa09ATEX0126
- UL Certified, conforms UL1203 and UI508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

a		b				c		d					
TYPE		CODE	MAKE	SWITCH MODEL	RATING		NO. OF ELEMENTS	CABLE ENTRY					
WEATHER PROOF	DXLW	5A	HONEYWELL	V15S05-CZ100A05-01	5Amp 125 OR 250V AC, 0.1Amp 48V DC, NO/ NC		1	1/2"NPT (F)	4R				
Ex PROOF IIA, IIB, IIC	DNLF	15A		V7-1C17E9-201	0.03Amp 250V DC, NO/ NC		2	3/4"NPT (F)	6R				
					15Amp 125 OR 250V AC, 0.5Amp 125V DC,		3	M20X1.5 (F)	3M				
					0.25Amp 250V DC, NO/ NC		4						
e		f		g		h		i		j		k	
BODY AND COVER		COLOUR		INDICATOR		TEMPERATURE RANGE		CABLE ENTRY		BRACKET		CERTIFICATES	
ALUMINIUM	×	BLACK	×	RED AND YELLOW	×	-20 °C to +80 °C	×	DUAL	×	REFER PAGE 39	BIS	×	
CF8M	B5	BLUE	B	RED AND GREEN	G	-40 °C to +120 °C	LTHT	4 ENTRY	4Q		CMRI	C	
				3 WAY L PORT	3L	-60 °C to +80 °C	LTL				ATEX	A	
				3 WAY T PORT	3T						U _L	U	

Note : (1) For CMRI and DGMS IIA, IIB Certificate will be applicable
(2) CCOE Certificate with KLPL test report

ORDERING EXAMPLE

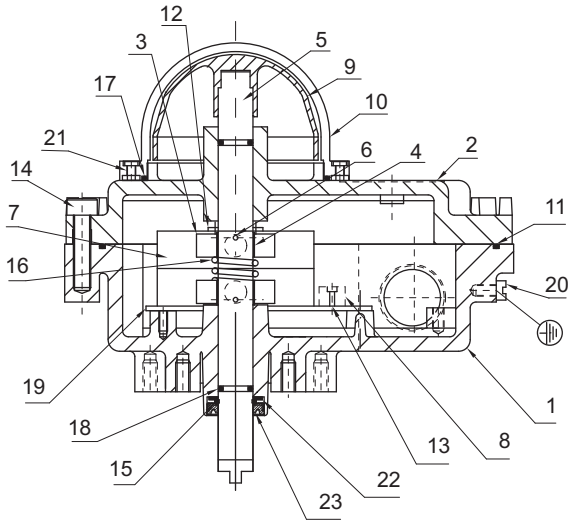
- DNLF-5A2-4R-B1
- Explosion proof to I, IIA and IIB and a weather proof box is provided with Honeywell 5 Amp switches 2 nos, each with 2 NO and 2 NC, 1/2" NPT cable gland entry. A Stainless Steel bracket, suitable for 80X30 tapping and for 20mm pinion height

DNLF5/ DXLW5

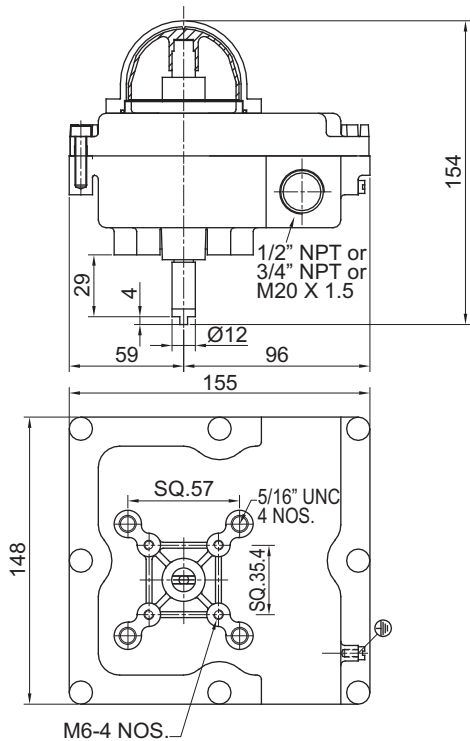
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	MICROSWITCH (DPDT)	2	HONEYWELL
8	CONNECTOR STRIP 6 WAY	1	POLYAMIDE
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR BRACKET	2	STAINLESS STEEL
13	SCREW FOR PCB	2	STAINLESS STEEL
14	NON FALLING SCREW	8	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	O-RING	1	NBR
18	O-RING	2	NBR
19	PRINTED CIRCUIT BOARD	1	-
20	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
21	PHILIPS HEAD SCREW	4	STAINLESS STEEL
22	WASHER	1	SS304
23	CUP SEAL	1	NBR

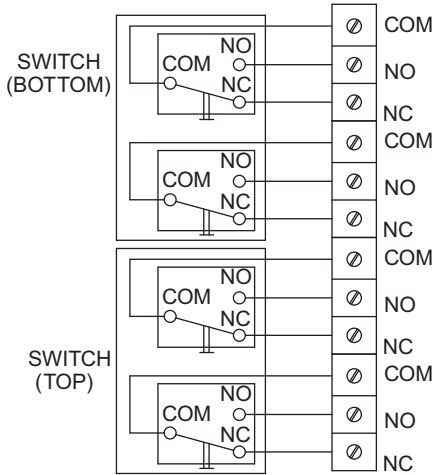
CROSS SECTION



DIMENSIONS (In mm)



WIRING DIAGRAM



EXPLOSION PROOF, HERMETICALLY SEALED SWITCH

DNLF6

COBRA

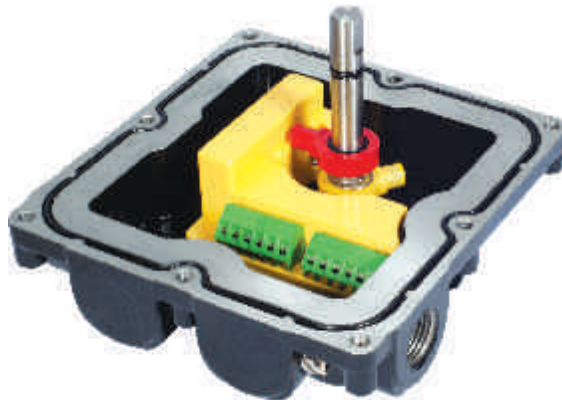


EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



FEATURES

- Explosion proof I, IIA, IIB, and IIC
- Maximum current permissible 2 Amp AC/ DC
- Aluminium Diecast, with powder coating, for superior corrosion resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch box conforms to Ex d IIC, T6 Highest level of safety
- Cable Entry M20, 1/2" NPT or 3/4" NPT
- Special PCB eliminates all wiring from the switch element to the terminals. Complete protection against short circuit.
- All fasteners are in Stainless Steel
- Additional mounting holes to the UNC series
- ATEX, certified by Baseefa United Kingdom, Certification no. Baseefa09ATEX0126
- UL Certified, conforms to UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



ORDERING OPTIONS

DNL		a		b		c		d	
TYPE		CODE		MAKE		SWITCH MODEL		RATING	
Ex PROOF IIA, IIB, IIC F		6A		HERMETIC INC.		R1		2Amps, 220V AC/ DC	
		16A				R2		0.2Amps, 24V DC	
						NO. OF ELEMENTS		CABLE ENTRY	
						1		1/2"NPT (F) 4R	
						2		3/4"NPT (F) 6R	
						3		M20X1.5 (F) 3M	
						4			
e		f		g		h		i	
BODY AND COVER		COLOUR		INDICATOR		TEMPERATURE RANGE		CABLE ENTRY	
ALUMINIUM *		BLACK *		RED AND YELLOW *		-20 °C to +80 °C *		DUAL *	
CF8M B5		BLUE B		RED AND GREEN G		-40 °C to +120 °C LTHT		4 ENTRY 4Q	
				3 WAY L PORT 3L		-60 °C to +80 °C LTL			
				3 WAY T PORT 3T					
								j	
								BRACKET	
								REFER	
								PAGE 39	
								k	
								CERTIFICATES	
								BIS *	
								CMRI C	
								ATEX A	
								UL U	
								CCOE CC	
								INMETRO I	
								GOST G	
								DGMS D	

Note : (1) The range is not limited to ones listed above.
Other versions can be offered as per the requirement

ORDERING EXAMPLE

- DNLF-6A2-4R-B1-U-D
- UL approved, Explosion proof to UL1203 and UL528, and a weather proof box is provided with 2 nos of Hermetically sealed switch 2Amps 1/2" cable gland entry. A Stainless Steel bracket suitable for 80X30 tapping and for 20mm pinion height with DGMS certificate

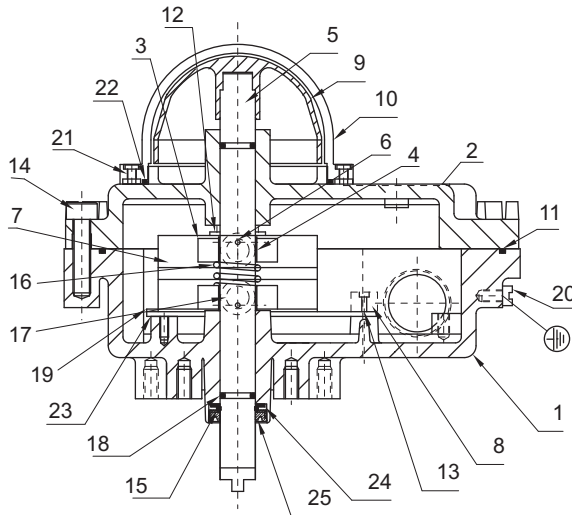
VERSATILE LIMITSWITCH

DNLF6

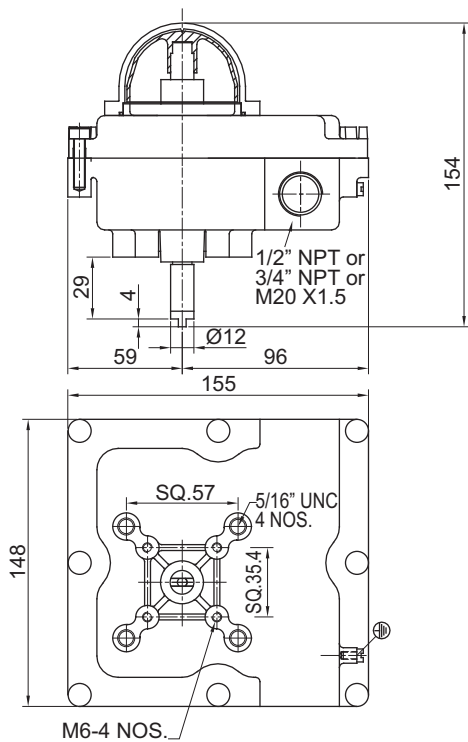
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	HERMETICALLY SEALED SWITCH	2	HERMATIC INC.
8	CONNECTOR STRIP 6 WAY	1	POLYIMIDE
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR REEDSWITCH	2	STAINLESS STEEL
13	SCREW FOR CONN. STRIP	2	STAINLESS STEEL
14	NON FALLING SCREW	8	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	CAP FOR CAM	2	POLYAMIDE
18	O-RING	2	NBR
19	MOUNTING PLATE	1	M.S.
20	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
21	PHILIPS HEAD SCREW	4	STAINLESS STEEL
22	O-RING	1	NBR
23	PRINTED CIRCUIT BOARD	1	-
24	WASHER	1	SS304
25	CUP SEAL	1	NBR

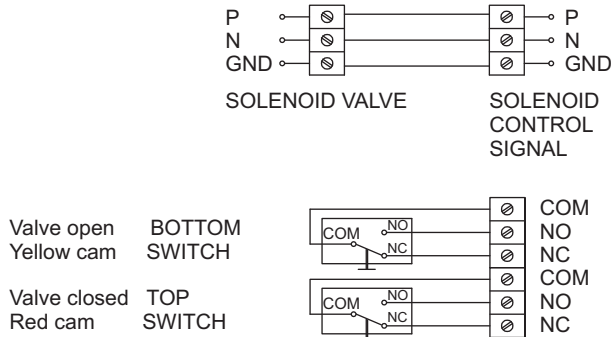
CROSS SECTION



DIMENSIONS (In mm)



WIRING DIAGRAM



POSITION TRANSMITTER

PTR01/ PTR02



- Weather Proof
- Explosion Proof

FEATURES

- Explosion proof and weather proof position transmitter
- Accuracy 0.3% FS
- Repeatability 0.2% FS
- Hysteresis 0.3% FS
- Field adjustment available
- Zero and span adjustable
- 2 wire system
- Spring loaded resistive feed back
- Visual percentage indicator provided
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- NAMUR mounting dimensions



ORDERING OPTIONS

a		b		c		d		e	
TYPE		POS. TRANSMITTER	PTR01	DIRECTION		CABLE ENTRY		COLOUR	
WEATHER PROOF	DXLW	SMART TRANSMITTER	PTR02	COUNTER	※	1/2"NPT (F)	4R	BLACK	※
Ex PROOF IIA, IIB, IIC	DNLF			CLOCK WISE		*3/4"NPT (F)	6R	YELLOW	Y
				CLOCK WISE	CW	M20 X 1.5 (F)	3M		

f		g		h		i	
INDICATOR		BRACKET		TEMPERATURE RANGE		CERTIFICATES	
RED AND YELLOW	※	REFER		-20 °C to +60 °C	※	CMRI	C
PERCENTAGE	P	PAGE 35		-40 °C to +60 °C	LT	CCOE	CC
RED AND GREEN	G						
3 WAY L PORT	3L						
3 WAY T PORT	3T						

Note : (1) The range is not limited to ones listed above. Other versions can be offered as per the requirement
 (2) Does not require an Exproof enclosure as a standard
 * (3) For DXLW-PTR-3/4" NPT (F) not possible

ORDERING EXAMPLE

- DXLW-PTR01-C-4R-Y-M1
- Weather proof position transmitter giving 4-20 mA output, with increase in current when rotated clockwise, 1/2" NPT cable gland entry, with black colour box having a steel bracket. 80X30 mounting holes for 20 mm pinion height

PTR/ 01 PTR/ 02

MATERIAL OF CONSTRUCTION

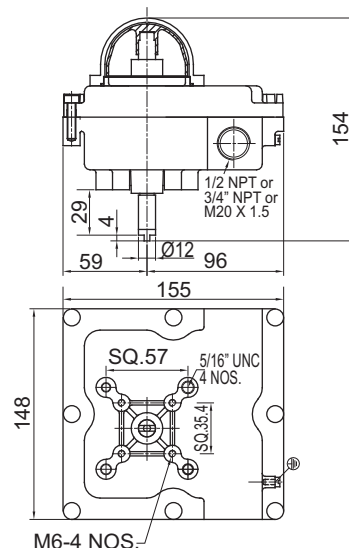
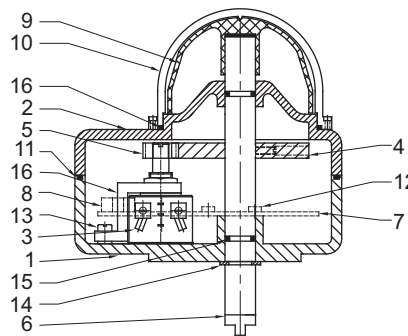
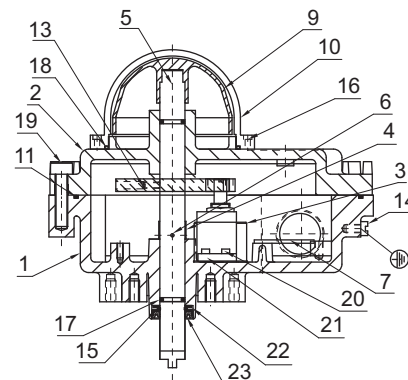
DNLF-PTR

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	POTENTIOMETER	1	-
4	CAM-LOCK	1	DELFIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	1	SPRING STEEL
7	LINEAR TRANSMITTER CARD	1	-
8	CAM-1	1	ALUMINIUM
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	CAM-2	1	ALUMINIUM
13	HEX SOC. SET SCREW	2	STAINLESS STEEL
14	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	PHILIPS HEAD SCREW	4	STAINLESS STEEL
17	O-RING	2	NBR
18	O-RING	1	NBR
19	NON FALLING SCREW	8	STAINLESS STEEL
20	SLOTTED CHEESE HEAD SCREW	2	STAINLESS STEEL
21	BRACKET	1	M.S.
22	WASHER	1	SS304
23	CUP SEAL	1	NBR

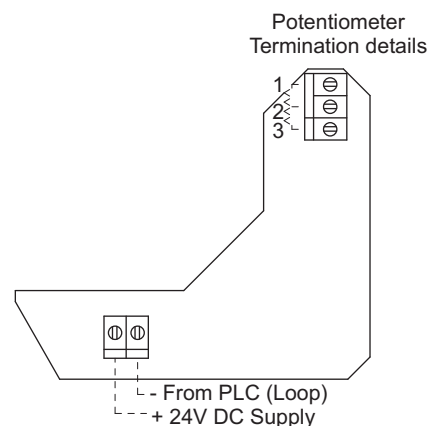
DXLW-PTR

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY
2	COVER	1	ALUMINIUM ALLOY
3	POTENTIOMETER	1	-
4	GEAR CAM-1	2	ALUMINIUM
5	GEAR CAM-2	1	ALUMINIUM
6	SHAFT	2	STAINLESS STEEL
7	LINEAR TRANSMITTER CARD	2	-
8	3 WAY TERMINAL BLOCK	4	-
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SLOTTED CHEESE HEAD SCREW	2	STAINLESS STEEL
13	SLOTTED CHEESE HEAD SCREW	1	STAINLESS STEEL
14	'E' TYPE CIRCLIP	1	SPRING STEEL
15	O-RING	2	NBR
16	O-RING	1	NBR

CROSS SECTION



LINEAR TRANSMITTER CARD



VALVE CONTROL BOX

VALVE CONTROL BOX WITH 3/2 & 5/2 SOV CONTROL

FEATURES

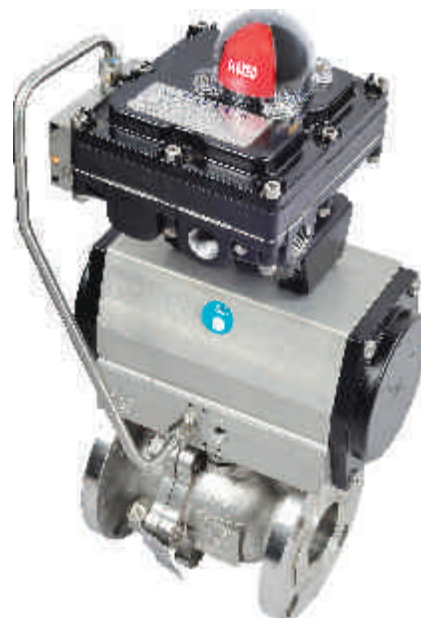
- Explosion proof I, IIA, IIB and IIC
- Maximum current permissible 2 Amp AC/ DC resistance
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable Entry M20, 1/2" NPT, or 3/4" NPT
- Special PCB eliminates all wiring from the switch element to the terminals. Complete protection against short circuit
- All fasteners are in Stainless Steel
- Additional mounting hole to the UNC series
- ATEX, certified by Baseefa United Kingdom,
- The Valve Automation System is suitable for ON/ OFF application
- Solenoid valve is designed with the threaded cover to suit the limit switch box tapping
- Manual override on SOV are available as an option



VALVE CONTROL BOX WITH DRIBBLE CONTROL

FEATURES

- The Actuator is suitable for coarse-fine adjustment, typically for batching operations or processes
- The Actuator has to be spring return
- The operation sequences fixed from full open, partial open to full close
- Infinite intermediate positions are possible with the limitswitch
- It can be fine tuned to the application easily
- The settings can be changed at site with ease, by simply adjusting the third cam provided
- It is applicable for 90° or 180° any ROTECH spring return Actuator can be converted into this arrangement by adding ROTECH valve Control Box with Dribble control



VERSATILE LIMITSWITCH

VALVE CONTROL BOX

DNLF



NEMA 4, 4X, 7 & 9



EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



FEATURES

- Valve control box with 3/2 solenoid valve
- Solenoid valve is designed with the threaded cover to suit the limit switch box tapping
- Explosion proof to I, IIA, IIB, and IIC
- As per UL1203 and UL508, File no. E246615
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable entries M20, 1/2" NPT, or 3/4" NPT
- All fasteners are in Stainless Steel
- Additional mounting hole is threaded as per the UNC series
- The customer can choose any other V3 mounting micro switch. Current above 10 Amp PCB will not be provided
- ATEX, certified by Baseefa United Kingdom, Certification no. Baseefa09ATEX0126
- UL Certified, conforms to UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



VALVE CONTROL BOX DRIBBLE

DNLF



NEMA 4, 4X, 7 & 9



EC94/9 Ex d, IIC, T6
EN/IS/IEC 60079-0,
EN/IS/IEC 60079-1



FEATURES

- Valve control box with Dribble control
- Dribble control valve is designed with the threaded cover to suit the limit switch box tapping
- Explosion proof to I, IIA, IIB, and IIC
- As per UL1203 and UL508, File no. E246615
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable entries M20, 1/2" NPT, or 3/4" NPT
- All fasteners are in Stainless Steel
- Additional mounting hole is threaded as per the UNC series
- The customer can choose any other V3 mounting micro switch. Current above 10 Amp PCB will not be provided
- ATEX, certified by Baseefa United Kingdom, Certification no. Baseefa09ATEX0126
- UL Certified, conforms to UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request

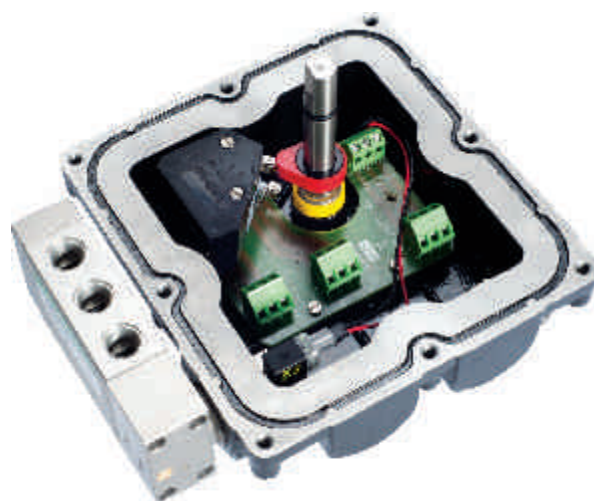


VALVE CONTROL BOXES-5/2 SOLENOID VALVES

VALVE CONTROL BOX WITH 5/2 SINGLE SOLENOID VALVE

FEATURES

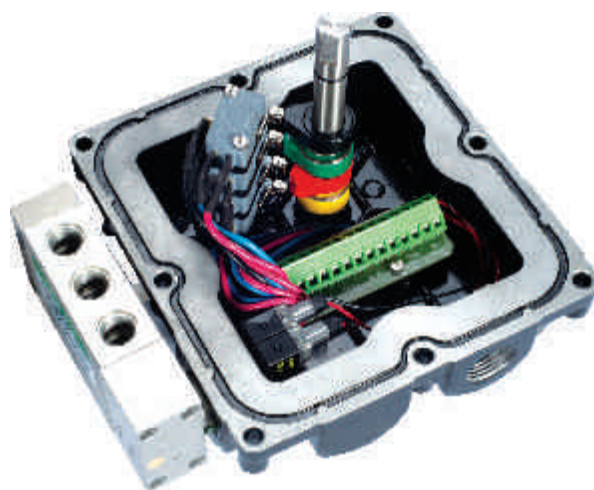
- Valve control box with 5/2 single solenoid valve
- Solenoid valve is designed with the threaded cover to suit the limit switch box tapping
- Explosion proof to I, IIA, IIB, and IIC
- As per UL1203 and UL508, File no. E246615
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable entries M20, 1/2" NPT, or 3/4" NPT
- All fasteners are in Stainless Steel
- Additional mounting hole is threaded as per the UNC series
- The customer can choose any other V3 mounting micro switch. Current above 10 Amp PCB will not be provided
- ATEX, certified by Baseefa United Kingdom, Certification no. Baseefa09ATEX0126
- UL Certified, conforms to UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



VALVE CONTROL BOX WITH 5/2 DOUBLE SOLENOID VALVE

FEATURES

- Valve control box with 5/2 Double solenoid valve
- Solenoid valve is designed with the threaded cover to suit the limit switch box tapping
- Valve control box with 5/2 single solenoid valve
- Solenoid valve is designed with the threaded cover to suit the limit switch box tapping
- Explosion proof to I, IIA, IIB, and IIC
- As per UL1203 and UL508, File no. E246615
- Shatterproof Polycarbonate Dome
- Easily settable colour coded cam
- The locked serrated cams, ensures the secured settings against any vibration
- Switch Box conforms to Ex d IIC, T6 Highest level of safety
- Cable entries M20, 1/2" NPT, or 3/4" NPT
- All fasteners are in Stainless Steel
- Additional mounting hole is threaded as per the UNC series
- The customer can choose any other V3 mounting micro switch. Current above 10 Amp PCB will not be provided
- ATEX, certified by Baseefa United Kingdom, Certification no. Baseefa09ATEX0126
- UL Certified, conforms to UL1203 and UL508, File no. 246615
- Temperature range -20 °C to +80 °C
On request -40 °C to +120 °C, -60 °C to +80 °C
- Cable entry
Dual cable entry
Optional 4 cable entry
- IP67 : Water, Rain and Dust Proof
- IP68 : Upto 100m on request



DAK 213/ VAK 213

ORDERING OPTIONS

DNLf		a		b			c		d		e		
TYPE		SWITCH SELECTION			CABLE ENTRY			BODY AND COVER		COLOUR			
Ex PROOF	※	CODE*	TYPE	PAGE NO	1/2"NPT (F)	4R	ALUMINIUM ※ CF8M B5		BLACK	※			
WITH CIRCUIT		1A2	MICRO SWITCH	8	3/4" NPT (F)	6R			BLUE	B			
		2A2	CYLINDRICAL PROXIMITY	12	M20X1.5 (F)	3M							
		3A2	FLAT TYPE PROXIMITY	16									
		4A2	SLOT TYPE PROXIMITY	18									
		5A2	DPDT	20									
		6A2	HERMETICALLY SEALED	22									

f		g		h		i		j		k													
INDICATOR		TEMPERATURE RANGE		CABLE ENTRY		BRACKET		CERTIFICATES		SOLENOID VALVE													
RED AND YELLOW	※	-20 °C to +80 °C	※	SINGLE	※	REFER	PAGE 39	CMRI	※	MODEL	CODE												
RED AND GREEN	G	-40 °C to +120 °C	LTHT	2 ENTRY	2Q			ATEX	A	3/2 SINGLE COIL-1/4"	DAK213												
3 WAY L PORT	3L	-60 °C to +80 °C	LTL	3 ENTRY	3Q			CCOE	CC	3/2 SINGLE COIL-3/8"	DAK313												
3 WAY T PORT	3T										3/2 DOUBLE COIL-1/4"	DAK214											
											3/2 DOUBLE COIL-3/8"	DAK314											
											DRIBBLE CONTROL-1/4"	DB213											
											DRIBBLE CONTROL-3/8"	DB313											
											5/2 SINGLE COIL-1/4"	VAK213											
											5/2 SINGLE COIL-3/8"	VAK313											
											5/2 DOUBLE COIL-1/4"	VAK214											
											5/2 DOUBLE COIL-3/8"	VAK314											

l		m	
SOV. PORT CONN.		COIL VOLTAGE	
MODEL	CODE	MODEL	CODE
BSP	G"	12VDC	12
NPT	R"	24VDC	24
		110VAC	110
		220VAC	220

Note : (1) The range is not limited to ones listed above.
Other versions can be offered as per the requirement

ORDERING EXAMPLE

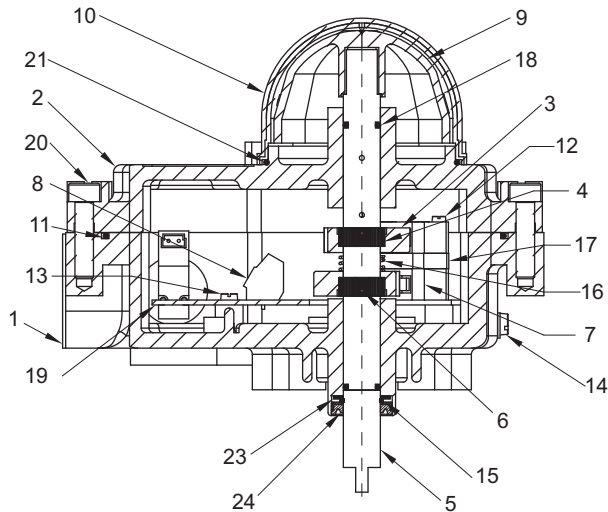
- * Select complete code from respective pages choosing ordering option (B) (C) e.g. page 8, 2 nos. Honeywell Microswitch choose 1A2
- DNLF-67-3A2-4R-M1-A-VAK214-G-24
- NJ2-V3-N 2 Nos switch with Double solenoid valve 1/4"BSP, 24VDC, 1/2"NPT 2 Nos ports (One will be used for solenoid valve and one available to customer)

VALVE CONTROL BOX

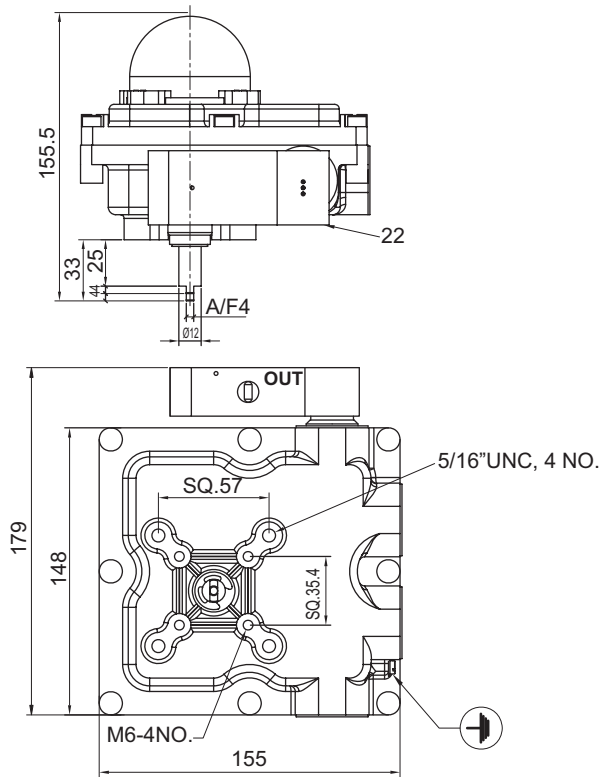
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	2	POLYAMIDE
4	CAM-LOCK	2	DELRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	2	SPRING STEEL
7	MICROSWITCH (SPDT)	2	HONEYWELL
8	THREE WAY TERMINAL BLOCK	4	POLYAMIDE
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR MICROSWITCH	2	STAINLESS STEEL
13	SCREW FOR PCB	2	STAINLESS STEEL
14	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	PAD	1	POLYAMIDE
18	O-RING	2	NBR
19	PRINTED CIRCUIT BOARD	1	-
20	NON FALLING SCREW	8	STAINLESS STEEL
21	O-RING	1	NBR
22	3/2 SOLENOID VALVE	1	-
23	WASHER	1	SS304
24	CUP SEAL	1	NBR

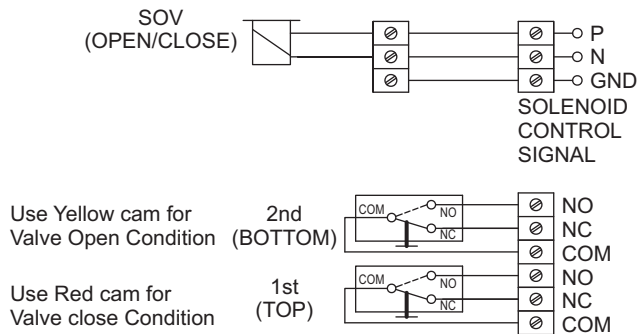
CROSS SECTION



DIMENSIONS (In mm)



WIRING DIAGRAM



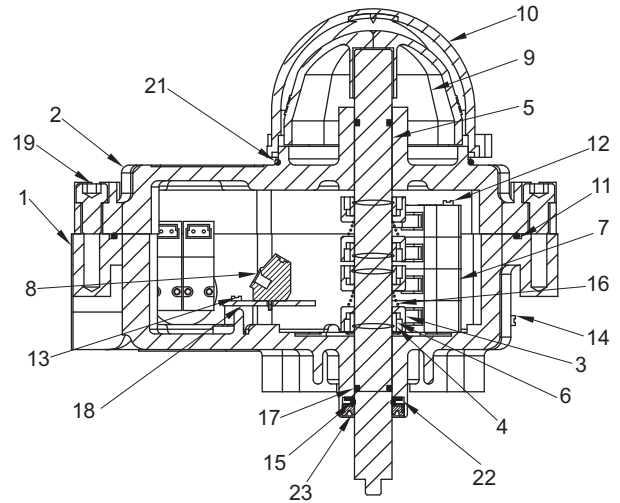
VERSATILE LIMITSWITCH

VALVE CONTROL BOX DRIBBLE

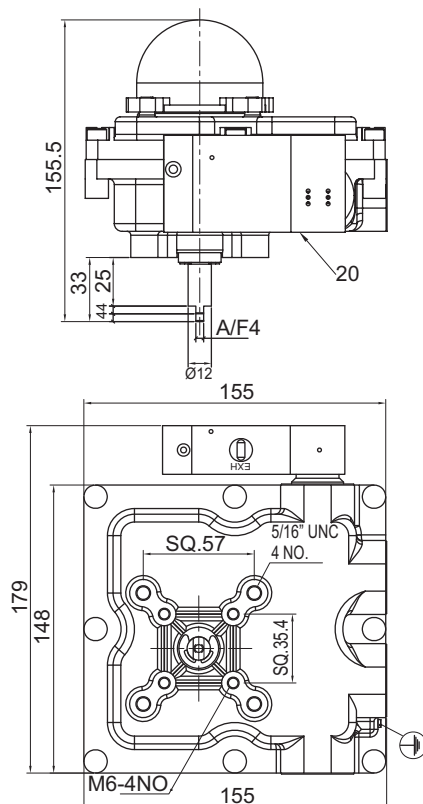
MATERIAL OF CONSTRUCTION

S.NO.	DESCRIPTION	QTY.	MATERIAL
1	HOUSING	1	ALUMINIUM ALLOY LM-6
2	COVER	1	ALUMINIUM ALLOY LM-6
3	CAM	4	POLYAMIDE
4	CAM-LOCK	4	DELTRIN
5	SHAFT	1	STAINLESS STEEL
6	SPRING DOWEL	4	SPRING STEEL
7	MICROSWITCH (SPDT)	4	HONEYWELL
8	CONNECTOR STRIP-6 WAY	1	POLYAMIDE
9	INDICATOR	1	ABS PLASTIC
10	INDICATOR COVER	1	POLYCARBONATE
11	GASKET	1	NBR
12	SCREW FOR MICROSWITCH	2	STAINLESS STEEL
13	SCREW FOR CONN. STRIP	2	STAINLESS STEEL
14	SCREW FOR EARTH CONN.	2	STAINLESS STEEL
15	EXTERNAL CIRCLIP	1	STAINLESS STEEL
16	SPRING	1	STAINLESS STEEL
17	O-RING	2	NBR
18	PRINTED CIRCUIT BOARD	1	-
19	NON FALLING SCREW	8	STAINLESS STEEL
20	DRIBBLE CONTROL VALVE	1	-
21	O-RING	1	NBR
22	WASHER	1	SS304
23	CUP SEAL	1	NBR

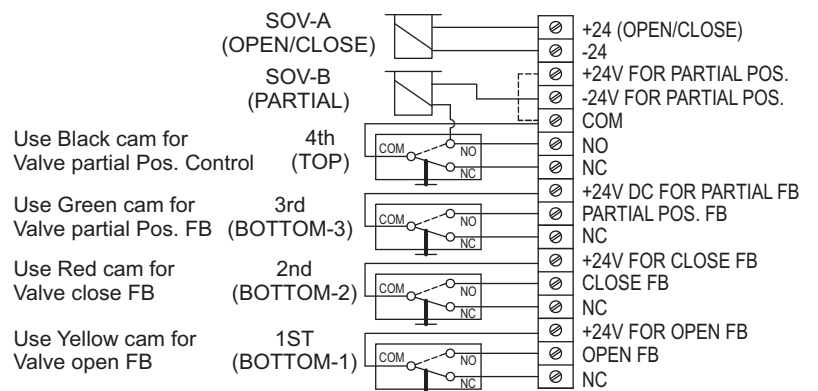
CROSS SECTION



DIMENSIONS (In mm)



WIRING DIAGRAM



FIELD BUS

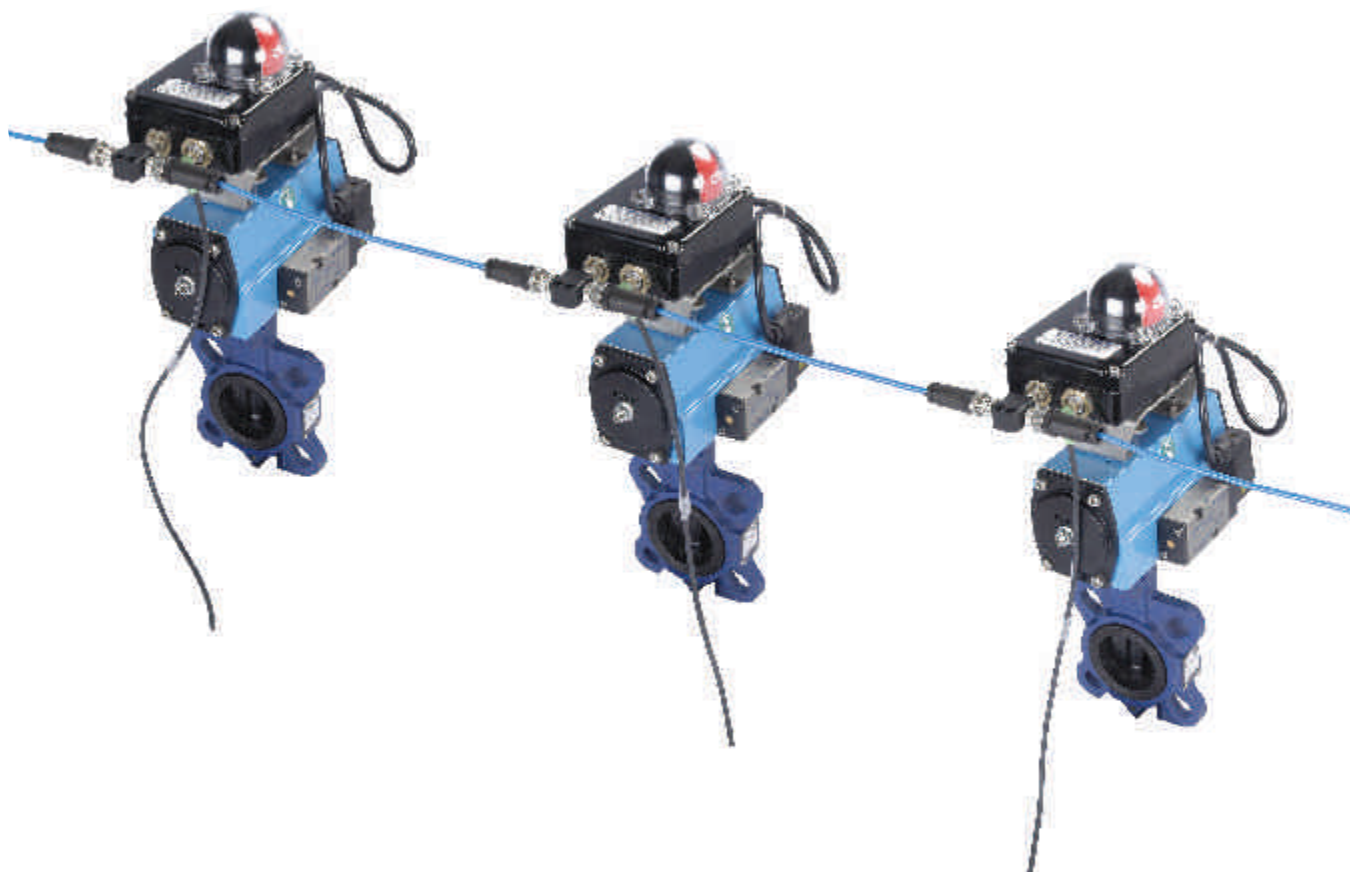
CATEGORY 1 AS-interface

The first category is at a relatively simple level where the requirement is to distribute digital I/O (inputs and outputs) to monitor inputs from switches or sensors (level, travel limit, fault alarms etc.) and or control outputs to ON/OFF devices such as solenoid valves or relays. In such applications, the requirement for high speed data transmission is not critical and the need to process significant amounts of data at the node does not exist. Generally, the control function is ON/OFF and the speed at which the related equipment operates, is far slower than the electronic data transfer rate. Electronic hardware cost, is an important factor, and local nodes need to be relatively simple, generally, with a maximum I/O count of 4 DO/DI for AS-interface is a typical system in this category

CATEGORY 3 PROFIBUS or FOUNDATION fieldbus

The third category is by far the largest with systems transmitting process control data at high speed to a potentially large number of nodes. The functionality of nodes can range from distributing discrete digital and analogue I/O, providing gateway to lower level systems (like AS-interface), through remote processing and local loop control. Systems in this third category are full function fieldbus capable of handling cyclic data, events and messages. Examples include PROFIBUS or FOUNDATION fieldbus (FF)

NETWORKING



VERSATILE LIMITSWITCH

PROFIBUS-DP/ PA, DEVICENET, CANOPEN

TYPE ‘F’ LIMITSWITCH BOX WITH PROFIBUS-DP/PA

- The ‘F’ limitswitch box, has been designed, to overcome lengthy wiring. It is easy to operate, maintain and control
- The box is configured to exchange data through field bus using PROFIBUS-DP protocol
- The Field bus connectivity is achieved, by using RS 485 interface with 5 core cable

COMMUNICATION CHARACTERISTICS

Protocol	Profibus-DP (Device Bus)	Profibus - PA (Process Control Network)
Transmission	Shielded and Twisted pair	Twisted pair, Fiber
Bus Structure	Line or tree, Using repeaters	Bus, Ring, Star
Maximum No of slaves	126	32 Nodes/ Segment 4-6 per repeated segment
		depending on power requirements of devices and the type of IS Barrier used
Input/ Output per Box	2 Inputs/ 2 Outputs	2 Inputs/ 2 Outputs
	4 Inputs/ 4 Outputs optional	4 Inputs/ 4 Outputs optional
Bus cable length	1200m at 9.6 kbps	1900M Maximum
	100m at 12 mbps	Distance 9500m with Repeater
		(Maximum 9 Repeaters)
Slave addressing	Rotary Switch/ Dip switch	Dip switch/ Handheld/ Software

ELECTRICAL CHARACTERISTICS

- Supply voltage : 24V DC+/- 10% with max 15% ripple
- Bus consumption : < 150 mA
- Solenoid consumption : Up to 8W
- Protection : IP55
- Supply connection (24V) : M8 Socket 4 pin male
- Bus connection : IN 5 pin M12-B male
- Earthing : On the box
- Electromagnetic compatibility : CE, directive EMC 89/ 336/ EEC

STANDARD INPUTS/ OUTPUT

- Microswitch : V15S05-CZ100A05-01 (5A) Honeywell
- Proximity : NJ2-V3-N (NAMUR sensor) P & F
- NBB3-V3-Z4 (24V, 100 mA) P & F
- Solenoid valves : 24V DC, 300 mA (8W max)



PROFIBUS-DP/ PA, DEVICENET, CANOPEN

TYPE 'F' LIMITSWITCH BOX WITH DEVICENET AND CANOPEN

- The type "F" limitswitch box has been designed to overcome lengthy wiring. It is easy to operate, maintain and control
- The Limitswitch box is configured to exchange data through the fieldbus using DEVICENET or CANOPEN protocol
- The fieldbus connectivity is achieved by using 2(signal) X 2(data) with shield, 5 core cable

COMMUNICATION CHARACTERISTICS

- Protocol : DEVICENET or CANOPEN
- Transmission : 2X2 twisted and shielded cable
- Bus Structure : Line or tree Structure
- Max. no. of slaves : 63
- Input/ Output per box : 2 Inputs/2 Outputs (4 Inputs/ 4 Outputs optional)
- Bus cable length : 500m at 125k bit/s and 100m at 500k bit/s
- Slave addressing : Rotary or DIP switch

ELECTRICAL CHARACTERISTICS

- Supply voltage : 24V DC +/- 10% with max 15% ripple (Condition power supply to protect the Digital communication)
- Bus consumption : < 100 mA
- Solenoid consumption : Up to 8W
- Protection : IP55
- Supply connection (24 V) : M8 Socket 3/4 pin male
- Bus connection : 5 Pin M12-A male
- Electromagnetic Compatibility : CE, directive EMC 89/ 336/ EEC

STANDARD INPUTS/ OUTPUT

- Microswitch : V15S05-CZ100A05-01 (5A) Honeywell
 - Proximity : NJ2-V3-N (NAMUR sensor) P & F
 - Solenoid valves : NBB3-V3-Z4 (24V DC, 100mA) P & F
- : 24V DC, 300mA (8W max)



PROFIBUS-DP/ PA, DEVICENET, CANOPEN

TYPE 'F' LIMITSWITCH BOX WITH AS-Interface

- The 'F' limitswitch box has been designed to overcome lengthy wiring. It is easy to operate, maintain and control
- The limitswitch is configured to exchange data through the fieldbus using Actuator Sensor Interface
- The fieldbus connectivity is achieved by using 2-wire interface depending upon network topology

COMMUNICATION CHARACTERISTICS

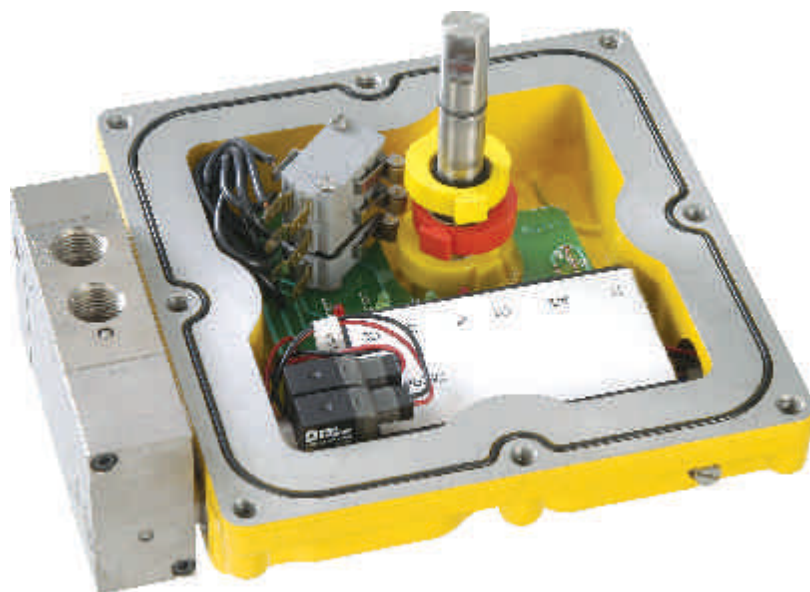
- Protocol : AS-Interface using V2.1/3.0 profile insert : 4I/4O simple addressing
- Transmission : ASI flat cable/ Unshield 2-wire
- Bus Structure : Line/ Star/ tree using repeaters
- Max. No. of slaves : 31
- Input/ output per box : 2 Inputs/ 2 Outputs (4 Inputs/ 4 Outputs optional)
- Bus cable length : 100m/ 300m with repeaters
- Slave addressing : Hand held addressing unit

ELECTRICAL CHARACTERISTICS

- Supply voltage : 24V DC+/- 10% with max 15% ripple
- Bus consumption : < 250 mA
- Solenoid consumption : Up to 1W
- Protection : IP55
- Supply connection (24V) : Flat with vampire type connector 5 pin male
- Earthing : On the box
- Electromagnetic compatibility : CE, directive EMC 89/ 336/EEC

STANDARD INPUTS/ OUTPUT

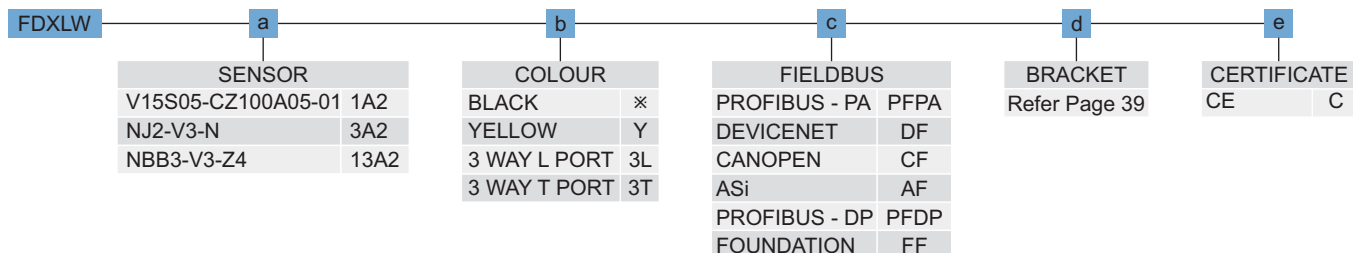
- Microswitch : V15S05-CZ100A05-01 (5A) Honeywell
- Solenoid valves : 24V DC, 40 mA (1W max)



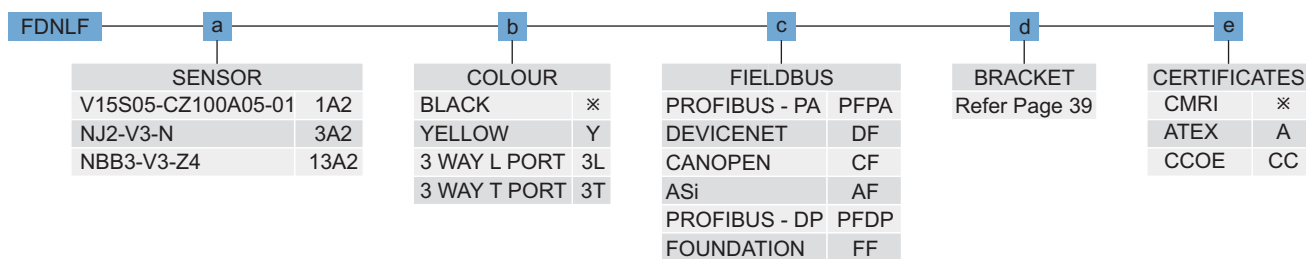
PROFIBUS-DP/ PA, DEVICENET, CANOPEN

ORDERING EXAMPLE

WEATHER PROOF



EXPLOSION PROOF

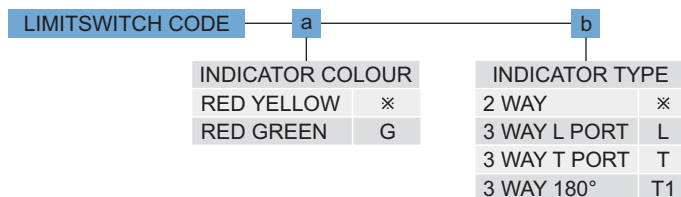


ORDERING EXAMPLE

MODEL : FDNLF13A2 - Y - PFDP - B1

Explosion proof housing with profibus-DP interface Digital input with PEPPERL+FUCHS Proximity, Sensor NBB3-V3-Z4 200 mAmp, 24V DC with 2 built in Solenoid Driver 24V DC, max 300 mA

ORDERING CODE FOR INDICATOR



MOUNTING BRACKET

ORDERING CODE	
MATERIAL OF BRACKET	
SS 304	MS
B1	M1

ACCESSORY
M5 X 10 - HEXAGON BOLT
M6 X 12 - HEXAGON BOLT

ORDERING CODE	
MATERIAL OF BRACKET	
SS 304	MS
B21	M21

ACCESSORY
M5 X 10 - HEXAGON BOLT
M6 X 12 - HEXAGON BOLT

ORDERING CODE	
MATERIAL OF BRACKET	
SS 304	MS
B3	M3

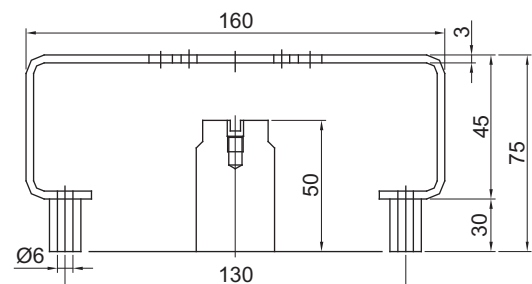
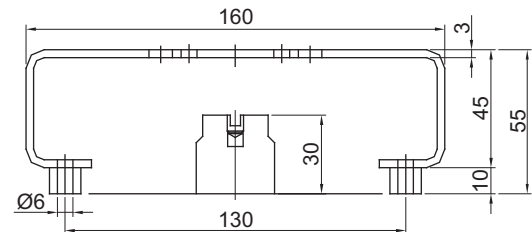
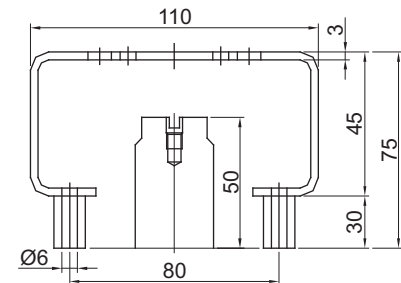
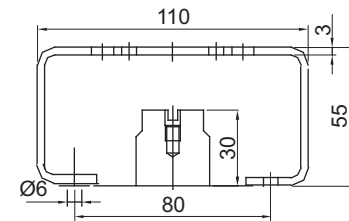
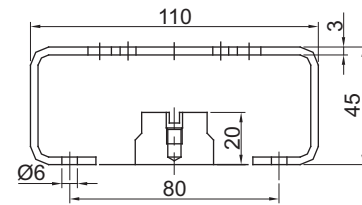
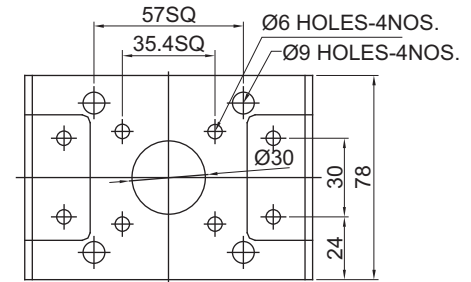
ACCESSORY
M5 X 40 - HEXAGON BOLT
M6 X 12 - HEXAGON BOLT
MS/ ALUMINIUM BUSH 30mm HEIGHT

ORDERING CODE	
MATERIAL OF BRACKET	
SS 304	MS
B132	M132

ACCESSORY
M5 X 20 - HEXAGON HEAD BOLT
M6 X 12 - HEXAGON HEAD BOLT
MS/ ALUMINIUM BUSH 10mm HEIGHT

ORDERING CODE	
MATERIAL OF BRACKET	
SS 304	MS
B133	M133

ACCESSORY
M5 X 40 - HEXAGON HEAD BOLT
M6 X 12 - HEXAGON HEAD BOLT
MS/ ALUMINIUM BUSH 30mm HEIGHT





Engineering For The Future

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