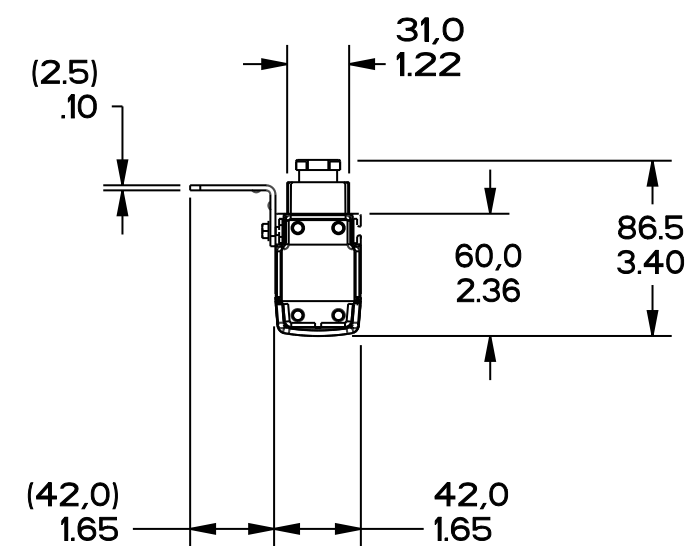
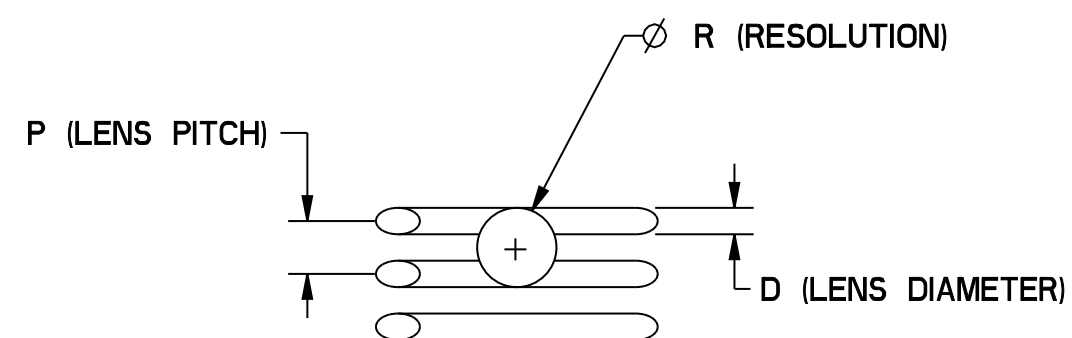


FF-SYA 2

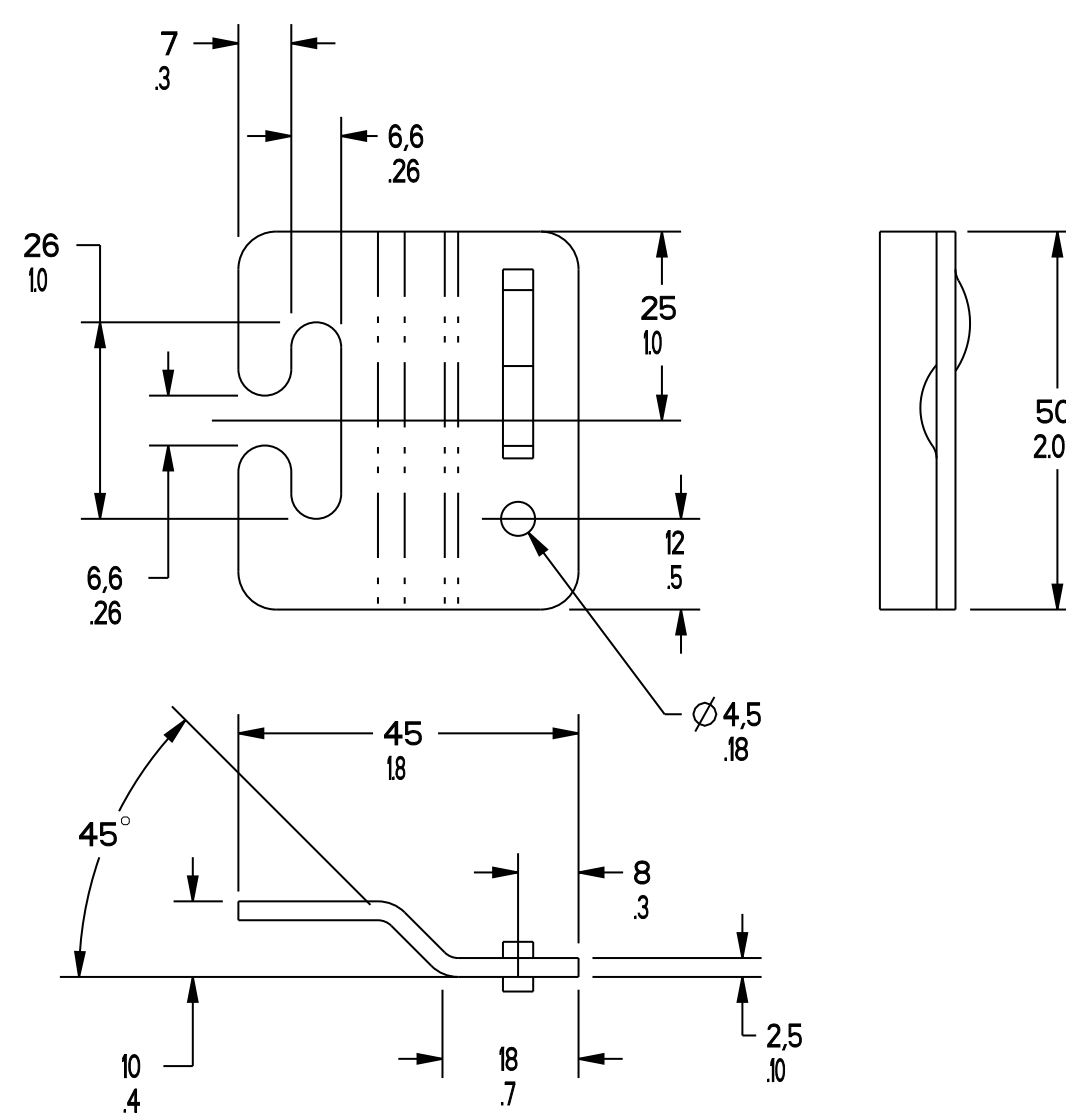


C: DIN 43651 PLASTIC PLUGS
Q: MALE RECEPTACLES COMPATIBLE WITH BRAD HARRISON MINI-CHANGE PLUGS

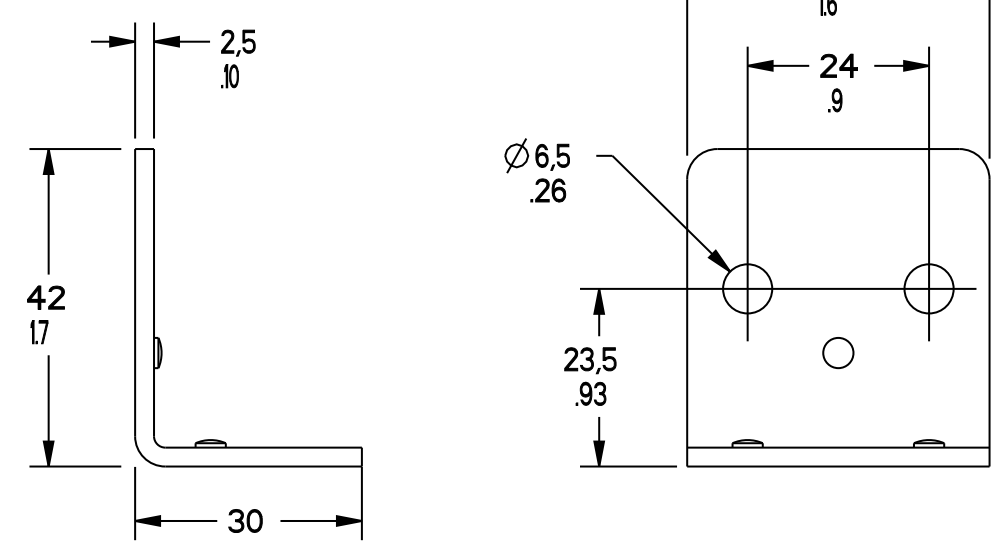
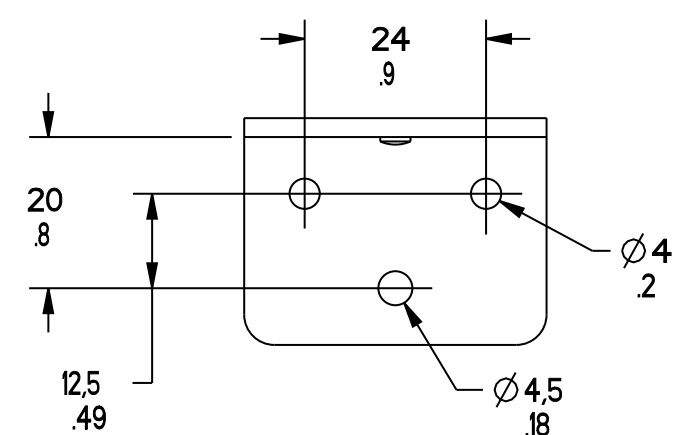
MODEL (SEE MODEL TABLE)

RESOLUTIONS

- 14: ϕ 14 mm/.6 in.
- 30: ϕ 30 mm/1.2 in.
- 60: ϕ 60 mm/2.4 in.



STRAIGHT MOUNTING BRACKET
SCALE: FULL



RIGHT-ANGLE MOUNTING BRACKET
SCALE: 1:1

SPECIFICATIONS

TYPE	SYA14	SYA30	SYA60
RESOLUTION	ϕ 14 .6	ϕ 30 1.2	ϕ 60 2.4
PROTECTION HEIGHTS	SEE MODEL TABLE		
NOMINAL SCANNING RANGES	0 - 6 m 0 - 20 ft	0.3 - 18 m 1 - 60 ft	0.3 - 18 m 1 - 60 ft
SUPPLY VOLTAGE	24Vdc ($\pm 15\%$)		
POWER CONSUMPTION	EMITTER: 7 W MAX / RECEIVER: 5.5 W MAX (SEE MODEL TABLE)		
OUTPUTS	2 FAIL-SAFE STATIC OUTPUTS (SWITCHING CAPACITY): 0.5 A/24 Vdc		
RESPONSE TIME	13.5 TO 17.5 mS (SEE MODEL TABLE)		
FUNCTION	TEST INPUT (EXTERNAL NORMALLY CLOSED CONTACT)		
LED STATUS INDICATORS	EMITTER: TEST MODE, FAILURE ALARM, SELECTED SCANNING RANGE RECEIVER: OUTPUT STATUS, OPTICAL SIGNAL MARGIN, CROSS-TALK DETECTION		
CROSS SECTIONAL DIMENSIONS	42.0 X 55.0/185 X 2.16 (SEE MODEL TABLE FOR COMPLETE HOUSING DIMENSIONS)		
EMISSION	INFRARED MODULATED LIGHT SOURCE (880 nm)		
EFFECTIVE APERTURE ANGLE	$\pm 2^\circ$, $\pm 25\%$ (IN COMPLIANCE WITH THE IEC/EN 61496 - PART 2)		
LIGHT IMMUNITY	SUN: 20,000 LUX/LAMP 15,000 LUX		
ELECTRICAL NOISE IMMUNITY	IEC 801-4: LEVEL III / IEC 801-3: LEVEL III		
AMBIENT TEMPERATURE	OPERATING TEMPERATURE: 0 TO 55°C/32 TO 131°F / STORAGE TEMPERATURE: -20 TO 75°C/-4 TO 167°F		
VIBRATIONS	IEC/EN 61496-1: 10 TO 55 Hz FREQUENCY RANGE, 1 OCTAVE/MIN SWEEP RATE, 0.35 \pm 0.05 AMPLITUDE, 20 SWEEPS PER AXIS, FOR 3 AXES		
SEALING	IP 65, NEMA 4, 13		
MATERIAL	HOUSING: ALUMINUM ALLOY, FRONT PLATE: POLYMETHYL METHACRYLATE (PMMA), END CAPS: POLYCARBONATE		
ELECTRICAL CONNECTION	FF-SYA...C2: DIN 43651 PLASTIC 7-PIN RIGHT-ANGLE PLUGS WITH CRIMPING CONTACTS (HIRSCHMANN N6RFF TYPE) / FF-SYA...Q2: 5 & 7 POLE STRAIGHT MALE RECEPTACLES COMPATIBLE WITH BRAD HARRISON MINI-CHANGE PLUGS (NOT INCLUDED)		

MODEL TABLE

MODEL	032	048	064	080	096	112	128	144	160
PROTECTION HEIGHT									
SYA14	334 13.1	494 19.4	654 25.7	814.0 32.07	974 38.3	1134 44.6	-	-	-
SYA30	350 13.7	510.0 20.09	670 26.3	830 32.7	990 39.0	1150 45.3	1310 51.6	1470 57.9	-
SYA60	-	-	710 27.9	-	1030 40.5	-	1350 53.1	-	1670 65.7
SENSING FIELD HEIGHT									
SYA14	314 12.3	474 18.6	634 24.9	794 31.2	954 37.5	1114 43.8	-	-	-
SYA30	310 12.2	470 18.5	630 24.8	790 31.1	950 37.4	1110 43.7	1270.0 50.03	1430 56.3	-
SYA60	-	-	610.0 24.03	-	930 36.6	-	1250 49.2	-	1570 61.8
TOTAL HEIGHT									
FF-SYA...C2	483 19.0	643 25.3	803 31.6	963 37.9	1123 44.2	1283 50.5	1443 56.8	1603 63.1	1763 69.4
FF-SYA...Q2	443 17.4	603 23.7	763 30.0	923 36.3	1083 42.6	1243 48.9	1403 55.2	1563 61.5	1723 67.8
RESPONSE TIME (msec)									
SYA14	14.0	15.0	15.5	17.7	19.5	20.5	-	-	-
SYA30	13.5	14.0	14.0	14.5	15.0	15.0	15.5	16.0	-
SYA60	-	-	14.0	-	15.0	-	15.5	-	17.5
WEIGHT PER DEVICE	1.00 kg 2.2 lb	1.38 kg 3.04 lb	1.76 kg 3.88 lb	2.14 kg 4.71 lb	2.52 kg 5.55 lb	2.90 kg 6.39 lb	3.28 kg 7.23 lb	4.04 kg 8.9 lb	4.42 kg 9.74 lb
POWER CONSUMPTION (W) (EMITTER/RECEIVER)									
SYA14	5/3.5	5/4	6/4	6/4.5	6/5	7/5	-	-	-
SYA30	4/3.5	4/3.5	5/4	5/4	5/4	6/4	6/4.5	6/4.5	-
SYA60	-	-	5/3.5	-	5/4	-	6/4	-	6/4.5

TYPE	ϕ R (RESOLUTION)	P (LENS PITCH)	D (LENS DIAMETER)	A (INACTIVE ZONE)	B (INACTIVE ZONE)
FF-SYA14	ϕ 14 .6	10 .4	4.0 .16	15.2 .60	90.6 3.56
FF-SYA30	ϕ 30 1.2	20 .8	10 .4	22.2 .87	87.6 3.45
FF-SYA60	ϕ 60 2.4	40 1.6	10 .4	42.2 1.66	87.6 3.45

NOTES
1 - EACH LISTING CONSISTS OF AN EMITTER, A RECEIVER, A PAIR OF CONNECTORS, TWO PAIR OF RIGHT ANGLE BRACKETS, TWO PAIR OF STRAIGHT BRACKETS AND A TEST ROD
2 - TYPE 4 ACCORDING TO THE IEC/EN 61496 - PARTS 1 AND 2 STANDARDS
3 - FOR REPLACEMENT MOUNTING HARDWARE, ORDER FF-SYZ001001. KIT CONSISTS OF TWO RIGHT-ANGLE AND TWO STRAIGHT BRACKETS WITH SCREWS, NUTS AND BOLTS.
ORDER 2 KITS FOR A COMPLETE SET, EMITTER AND RECEIVER
DIMENSIONS FOR THE DIN 43651 PLASTIC PLUG OPTION SHOWN

PTC/CAD 20
DRAWN JAF
CHECK JAF
26 JUL 99
MAM
REVISIONS
1 OF 1
FF-SYA SERIES CHART 1
RELEASE NO. CO-95220
REPLACES

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FED. MFG. CODE 91299
CATALOG LISTING
MICRO SWITCH a Honeywell Division
SAFE PRELIMINARY
FF-SYA SERIES CHART 1
DESIGN UNITS: SI METRIC (checked), US CUSTOMARY
WEIGHT

THIRD ANGLE PROJECTION
SCALE: NONE
DO NOT SCALE PRINT
TOLERANCES
APPLY TO DIMEN UNITS. CONCESSIONS ARE ONLY FOR REFERENCE, UNLESS NOTED. TOLERANCES ARE:
DIM TOL DIM TOL
NO PLACES X .12 .04 X .1 0.01 .05
TWO PLACES X .12 .04 X .1 0.01 .05
THREE PLACES X .12 .04 X .1 0.01 .05
ANGLES
SI METRIC (checked) US CUSTOMARY
WEIGHT