

PRODUCT FAMILY OVERVIEW & RATINGS

Series 20 Heavy-Duty Level Switches

PRODUCT OVERVIEW



20-202-AC shown — 2-station high-low control set

The Series 20 product group is designed to handle industrial control jobs like switching contactors and solenoid valves. Series 20 switches use the Yaskawa Bestact™ hermetically sealed switch element — hinged armatures, wrought contacts, and a wiping action that make reliable inductive load switching possible.

The contaminate-free hermetically sealed envelope keeps fumes and particles from interfering with switch reliability, so long service can be expected even under difficult conditions.

A magnetic float rides up and down a double-welded, molded stem containing the Bestact switch. Series 20 switches share a common part set and assembly style — snap and screw ERECTA SWITCH® components make length, switch position, mounting, and electrical interface a matter of choice.

Why Series 20 for Industrial Control?

- Designed for **inductive load switching** — solenoid valves, contactors, motor starters
- Hermetically sealed Bestact™ envelope — fume and particle resistant
- 120 VA / 240 VAC inductive rating — direct control without pilot relays
- 100K+ operations at full AC rating; 300K+ at DC rating
- Class 1 Division 2, Groups A/B/C/D approved
- Common part set enables mix-and-match length, mounting, and station count
- Field-repairable — part replacement in minutes, no factory return
- PP / AC / KR materials — water, petroleum, and chemical service

Series 20 — Product Line

Model	Configuration	Typical Use
20-611	Single-point compact switch	Simple ON/OFF at one level
20-202	2-station high-low control set	Wide-differential pump control
20-725	Control head — 20 A relay	High-load motor / HP service
Extended-stem sets	Multi-level assemblies	2+ stations, custom length

ELECTRICAL, MATERIALS & OPERATING ENVIRONMENT

Electrical Rating

ELECTRICAL RATING	
Bestact™ Inductive load switching	
Contact life	240 VAC MAKE 5, BREAK .5 100K OPERATIONS 115 DC MAKE .3, BREAK .3 300K OPERATIONS
Contact rating	120 VA, 240 VAC Inductive Yaskawa Electric America Inc. Bestact model R25 Northbrook, IL 60062
UL file	E159361
Class 1, Division 2, Groups A,B,C,D.	
AC	240V .5 AMP, 10 AMP MAX MAKE, 24V 1 MA MIN
DC	115V .3 AMP, .5 AMP MAX BREAK, 24V 1 MA MIN

Yaskawa Bestact — inductive load switching

Trip Point Summary

Wet Open: Switch opens as float approaches the hex and closes as float approaches the stop ring at the opposite end. Differential typically 0.10"/2.54 mm.

Dry Open: Switch opens as float approaches the stop ring and closes as float approaches the hex. Same typical differential.

The unit can be mounted "threads up" or "threads down"; the mounting orientation plus the selected mode (N.O. or N.C.) defines the switch action on rising level.

Materials of Construction

MATERIALS OF CONSTRUCTION	
20-611-PP	(Gray & black) Polypropylene
20-611-AC	(Red) Acetal
20-611-KR	(Natural) Kynar PVDF



PP — Gray Polypropylene AC — Red Acetal KR — Natural Kynar

Application Environment

APPLICATION ENVIRONMENT		
Pressure (Hollow float)	20 PSI MAX @ 20°C	Derate, Zero @ 90°C
Temperature	90°C MAX	---
Specific Gravity, PP	.80 MIN	Clear Liquid
Specific Gravity, AC	.75 MIN	Clear Liquid
Specific Gravity, KR	.95 MIN	Clear Liquid

Pressure, temperature, SG, and cant-angle limits

CONFIGURATIONS & MOUNTING

Float Buoyancy — SG 1.0

FLOAT BUOYANCY IN SPECIFIC GRAVITY 1.0							
Float	PP		AC		KR		Medium
	Inches	MM	Inches	MM	Inches	MM	
Exposed	1.0	25.4	0.65	16.5	0.30	7.6	air
Submerged	1.05	26.7	1.40	35.6	1.75	44.5	Water
Height	2.05	52.1	2.05	52.1	2.05	52.1	---

Float exposed / submerged depth by material

Configuration Flexibility

The Series 20 ERECTA SWITCH system is derived from a single station product (20-611) used alone or in combination with snap and screw hardware sets. Configurations include flange mount, jam nut, bulkhead, and multi-level assemblies.

Dimensions, OEM pricing, and complementary Series 20 products are included in the Application Notes document. See the scheme library for stock solutions to mounting, length, and multi-station applications.

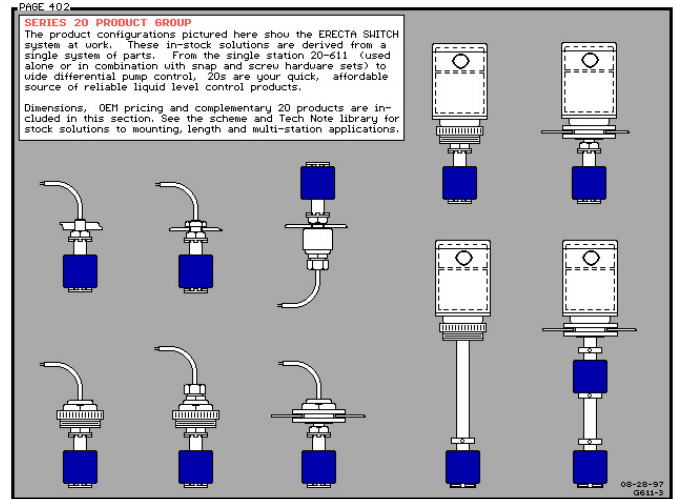
Inductive Load Note

The Bestact™ element was purpose-built for inductive switching.

Unlike reed switches used in Series 10/15, Series 20 contacts are internally designed to handle solenoid, contactor, and starter loads within the stated rating.

For loads exceeding 120 VA inductive, use the 20-725 Control Head with integral 20 A relay.

Series 20 Product Group



Stock configurations derived from the 20-611 core product

Standard Approvals

Class 1 Division 2, Groups A, B, C, D — qualified for use in hazardous locations as defined by the NEC.

Yaskawa Electric UL file E153361 covers the Bestact switching element. Observe applicable electrical codes when using this product.

OEM APPLICATIONS & ACCESSORY SYSTEM

Application	Model	Material	Notes
High-low pump control	20-202	PP/AC/KR	2-station wide differential
Solenoid valve control	20-611	PP/AC/KR	Direct inductive switching
Motor starter pilot	20-725	—	20 A relay in control head
Electroplating baths	20-611 / 20-202	KR	Kynar for aggressive chemistry
Semiconductor process	20-611 / 20-202	KR	Clean-liquid service
Diesel day tanks	20-611	AC	Acetal for petroleum fuels
Industrial batching	20-202	PP/AC/KR	Start-high / stop-low
Custom multi-level	Extended-stem set	PP/AC/KR	Cut stem to depth at assembly

Chemical Compatibility

PP — Gray & Black Polypropylene: water, aqueous solutions, soaps, mild alkalis. General-purpose service near ambient conditions.

AC — Red Acetal: hydrocarbons, diesel, hydraulic fluids, petroleum fuels. Mobile equipment and fuel systems.

KR — Natural Kynar PVDF: acids, caustics, chlorinated compounds, high-purity process chemistry. Semiconductor and electroplating workhorse.

Design Assistance

Compac provides free engineering consultation: chemical compatibility review, circuit protection recommendations, sample qualification.

Contact sales@compac.com with process chemistry and operating conditions.

Assembly Preview



20-202-EX — 2-station high-low control set (exploded)

See the *Series 20 Application Notes* for wiring circuits, pump control diagrams, and the SCE scheme library. See the *Series 20 Operating Principle* for Bestact™ internals and point-of-operation behavior.