HW Series — 22mm IEC Style Global Pushbuttons

HW: The Best Engineered Switch in the World

Key features include:

- *Locking lever removable contact blocks*
- *Finger-safe IP20 contacts as standard, other terminal styles available*
- *Tamperproof construction*
- *All E-stops meet EN418 and are compliant with SEMI S2 standards*
- *Worldwide approvals*
- *Easy to assemble*
- *Available assembled or as sub-components*
- *Choice of black plastic or metallic front bezels*
- *Incandescent or LED illumination*
- *Transformer or full voltage*
- *Slow make double break self cleaning contacts*

IDEC's HW switches are "The best engineered switch in the world" for a reason. Carrying the CE mark, UL, CSA, and TUV approvals, these switches are designed for use in almost any part of the world.

Complete with finger-safe contact blocks offering IP20 protection, these 7/8" (22mm) switches include illuminated and non-illuminated pushbuttons, pilot lights, selector switches, and emergency stop switches.

All switches also incorporate mechanically keyed safety locking levers, ensuring correct installation and maintaining safety in high-vibration applications.

UL File No. E68961　　　CSA® File No. LR92374　　　CE　　　TÜV Rheinland

Registration No. R9551089 (E-stops)
Registration No. J9551458 (all other switches)
Registration No. J9650511 (Pilot Lights)

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Switches & Pilot Devices

Specifications

Conforming to Standards	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14
Approvals	

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	CSA: pushbuttons and selector switches: A600 pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V) **UL:** pushbuttons and selector switches: A600 pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V) **TÜV:** pushbuttons and selector switches: A600=P600 (NO, NC)/Q600 (NO-EM, NC-LB) pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)
Operating Temperature	Operation: –25 to +50°C (without freezing) Storage: –40 to +70°C (without freezing)
Vibration Resistance	10 to 55Hz, 98m/sec^2 (10G) conforming to IEC6068-2-6
Shock Resistance	980m/sec^2 (100G) conforming to IEC6068-2-7
Electric Shock Protection	Class 0 conforming to IEC60536
Degree of Protection (conforming to IEC60529) (conforming to NEMA ICS6-110)	IP65 (from front of the panel) IP20 (Type HW-F contact block) NEMA 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (from front of panel)
Mechanical Life	Momentary pushbuttons: 5,000,000 (900 operations per hour) All other switches: 500,000
Pollution Degree (conforming to IEC60947-1)	3 for switches not using a transformer 2 for switches using a transformer
Rated Operational Characteristics	AC-15: A600 or Ue = 250V, Ie = 3A (NO, NC, NO-EM, NC-LB) DC-13: P600 or Ue = 125V, Ie = 1.1A (NO, NC) DC-13: Q600 or Ue = 125V, Ie = 0.9A (NO-EM, NC-LB)
Rated Insulation Voltage	600V
Rated Switching Over-Voltage	Less than 4kV, conforming to IEC60947-1
Rated Impulse Withstanding Voltage	4kV for contact circuit 2.5kV for lamp circuit
Rated Thermal Current	10 Amp
Minimum Switching Capacity	5 mA at 3V AC/DC
Contact Operation	Slow break NC or NO, self-cleaning
Positive Action Operation (Emergency Stops with NC contacts)	5.5mm to 10mm travel to latch 45N minimum force to latch 10mm maximum travel 1,800 operations per hour maximum for a Pushlock Turn Reset 900 operations per hour maximum for a Push-Pull
Operating Force	Flush and extended pushbuttons—with 1NO or 1NC contact: 6.2±2N (momentary), 7.0±2N (maintained) Additional contacts—1NO or 1NC: +3.2N (momentary), + 3.3N (maintained)
Terminal Referencing	Conforming to CENELEC EN50005
Recommended Terminal Torque	0.8 N m (7.1 in lb.)
External Short-Circuit Protection	10A 250V fuse conforming to IEC60269-1
Applicable Wire Size	Minimum 1 x 22 AWG, max. 2 x 14 AWG or 1 x 12 AWG
Contact Resistance	Initial contact resistance of 50mΩ or less
Contact Gap	4mm (NO and NC) 2mm (NO-EM and NC-LB)
Horsepower Rating	Reference Value: 1/4 HP @ 120V (1ø non-reversing), 1HP @ 240V (3ø non-reversing)
Electrical Reliability	MTBF < 1 fault for 10 million operation cycles (3V DC, 5mA)
Lamp Ratings	Incandescent: 1 W LEDs: 6V/17mA max, 12V & 24V/11mA max, 120 & 240V/10mA max
Maximum Inrush Current	40 A (40 ms)
Contact Material	Silver (gold plated contacts available - contact IDEC)

Contact Ratings

	Break Values				Make Values			
	AC		**DC**		**AC**		**DC**	
	Inductive	Resistive	Inductive	Resistive	Inductive	Resistive	Inductive	Resistive
Rated Operating Current	24V:10A 120V: 5A 240V: 3A 480V: 1A	24V:10A 120V: 10A 240V: 6A 480V: 2A	24V: 5A 48V:2A 110V:1.1A 220V:0.6A	24V: 10A 48V:5A 110V:2.2A 220V:1.1A	120V: 60A 240V: 30A 480V: 15A 600V: 12 A	120V: 100A 240V: 60A 480V: 20A	120V: 11A 240V: 6A 12V: 40A 24V: 40A	120V: 20A 240V: 11A 480V: 4A 12V: 40A 24V: 40A

Nameplates — HW Series

Part Numbers: Nameplates

	HWAM–Black Plastic	HWAQ–Black Plastic	HWAS–Black Plastic	HWAV–Yellow Plastic
	29mm / 30mm / OFF ON	29mm / 30mm / STOP / 14.5mm	45mm / 45mm	EMERGENCY / Ø 60mm / STOP
	Part Number	**Part Number**	**Part Number**	**Part Number**
Nameplate (blank engraving plate included)	HWAM-0B	HWAQ-0B	HWAS-0B	HWAV-0Y
Nameplate (engraved)	HWAM-①	HWAQ-①	HWAS-①	HWAV-27* HWAV-527†
Additional Insert (blank)	HWNP-0	HWNP-0	HWNP Dimensions	
Additional Insert (engraved)	HWNP-①	HWNP-①	12mm / 27mm	

1. *In place of ①, insert either the standard legend code from table below or custom engraving delimited by " ".*
2. *Standard engravings are available at no charge.*
3. ** HWAV-27 comes engraved "Emergency Stop" as shown in drawing.*
4. *† HWAV-527 for 80mm diameter jumbo mushroom comes engraved "Emergency Stop" as shown in drawing.*

Standard Legend Codes

Pushbuttons				Pushbuttons/Selector Switches				Selector Switches	
Legend	**Code**	**Legend**	**Code**	**Legend**	**Code**	**Legend**	**Code**	**Legend**	**Code**
AUTO	101	OPEN	116	AUTO-MAN	201			AUTO-MAN-OFF	301
CLOSE	102	OUT	117	CLOSE-OPEN	202			AUTO-OFF-MAN	302
DOWN	103	RAISE	118	DOWN-UP	203			CLOSE-OFF-OPEN	303
EMERG.STOP	104	RESET	119	FAST-SLOW	204			DOWN-OFF-SLOW	304
FAST	105	REVERSE	120	FOR-REV	205	REV-FOR	216	FAST-OFF-SLOW	305
FORWARD	106	RUN	121	HAND-AUTO	206	RUN-JOG	217	FOR-OFF-REV	306
HAND	107	SLOW	122	HIGH-LOW	207	RUN-SAFE	218	LEFT-OFF-RIGHT	307
HIGH	108	START	123	JOG-RUN	208	SAFE-RUN	219	LOWER-OFF-RAISE	308
IN	109	STOP	125	LEFT-RIGHT	209	SLOW-FAST	220	OFF-MAN-AUTO	309
INCH	110	TEST	126	LOWER-RAISE	210	START-STOP	221	OFF-SLOW-FAST	310
JOG	111	UP	127	MAN-AUTO	211	STOP-START	222	OFF-1-2	311
LOW	112	I (Int'l On)	150	OFF-ON	212	UP-DOWN	223	OPEN-OFF-CLOSE	312
LOWER	113	O (Int'l Off)	151	ON-OFF	213	OI (Int'l OFF ON)	250	SLOW-OFF-FAST	313
OFF	114	EMO	152	OPEN-CLOSE	214			SUMMER-OFF-WINTER	314
ON	115			RAISE-LOWER	215			UP-OFF-DOWN	315
								1-OFF-2	316
								HAND-OFF-AUTO	317

1. *To order engraved nameplates, add legend code to nameplate part number.*
2. *Character height based on the number of characters and size of nameplate. Standard character size is 3/16".*
3. *Nameplates with standard legends are the same list price as blank nameplates.*
4. *Nameplates have built-in anti-rotation feature for use with notched panel cut-outs. Additional anti-rotation ring (HW9Z-RL) is not necessary.*