

SERIES KLS-HD-200 & 2000 SPECIAL FEATURES

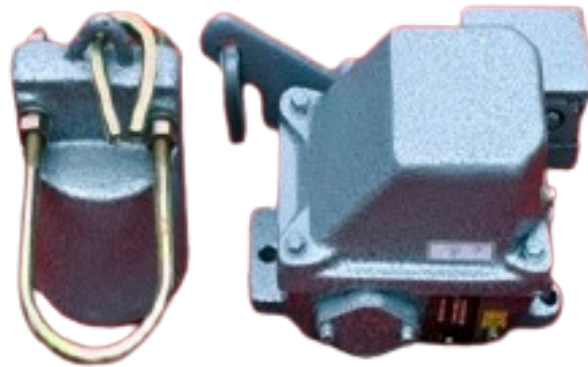
- Double break contacts with high quality silver cadmium oxide contact tips having arc-retarding and anti-welding properties.
- Provided with specially treated oil resistant rubber gaskets at all the joints in the switch to make it completely dust-proof.
- Universal design for both AC and DC applications.
- Cams and contact blocks are of high grade phenolic fibrous moulding material having excellent electrical and mechanical properties.
- Resists extreme shock & vibratory conditions.
- Ease of maintenance, reliability of performance, flexible contact sequence and long-life.

APPLICATION

- KAKKU Limit Switches Series KLS-HD-200 & KLS-HD-2000 are used to provide electrical on/ off signals for the automatic control circuits of Heavy Machinery, EOT Cranes, Conveyors, Transfer Cars, Elevators, Steel Mills, Auxiliaries & other Mobile/ Material Handling Equipments for slowing down/stopping the drive at the end limits of its travel for safety purpose or initiating a control/interlocking sequences between various drives. KAKKU Limit Switches are available in a variety of different sizes and designs. A multitude of operating levers can be obtained to suit specific requirements.

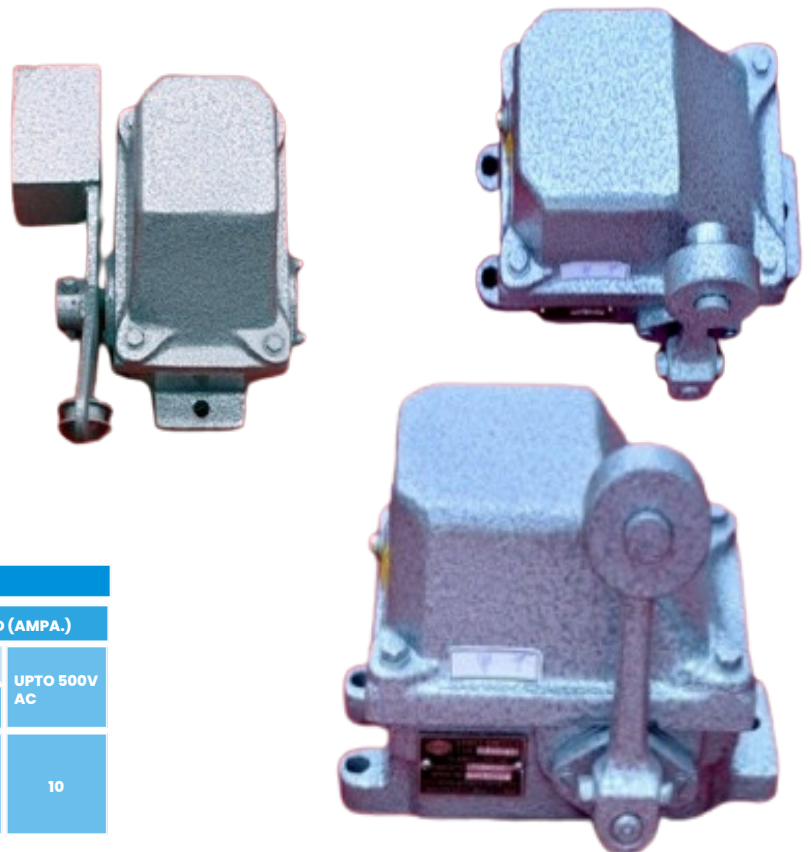
TECHNICAL DATA

- Ambient Temperature: 55° C
- Mounting Arrangement: Surface
- mounting Housing: Cast Iron/ Al.
- housing & detachable cover
- Enclosure category: As per IP-55 of IS-2147-1962. Terminals: Suitable for conductor size 2.5mm².



OPTIONAL EXTRAS

- Enclosure IP-65 Special Shape and size
- of lever. Suitable base plate at bottom
- to match any mounting dimension.
- (furnish drawing) Epoxy paint for special applications. Position of the lever at any desired angle in normal position. Set of accessories comprising
- of snatch block, 2 metres wire rope,
- rope clamps and rope fastening arrangement for KLS-HD-203 & KLS-HD-2032. Single or double compression cable gland. Contact with thermal rating of 40 Amps.



RATINGS						
RATED VOLTAGE	PERMISSIBLE CONTINUOUS CURRENT	MAKING CURRENT UPTO 500 V AC	BREAKING CURRENT INDUCTIVE LOAD (AMPA.)			
			DC			UPTO 500V AC
			110 V	220 V	440 V	
UPTO 500V AC OR DC	10 A	50 A	2.5	1.5	0.5	10

KAKKU SPINDLE TYPE ROTARY GEARED LIMIT SWITCHES, SERIES KRLS-400

SPECIAL FEATURES

- Double break snap-acting contacts with high quality silver cadmium oxide contact tips having arc-retarding and anti-welding properties.
- Provided with specially treated oil resistant rubber gaskets at all the joints in the switch to make it completely dust-proof.
- Universal design for both AC and DC applications.
- Contact fingers are of high grade phenolic fibrous moulding material having excellent electrical and mechanical properties.
- Resists extreme shock & vibratory conditions.
- Ease of maintenance, reliability of performance, flexible contact sequence and long-life

APPLICATION

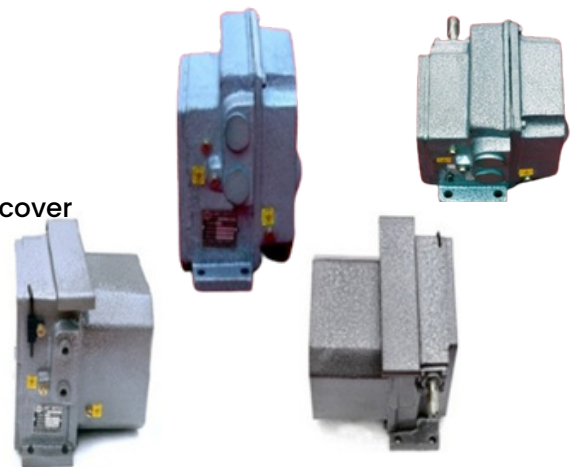
- KAKKU Spindle Type Rotary Geared Limit Switches Type KRLS-400 are used in control circuits of cranes, hoists winches and other drive mechanisms where two way travel of the mechanism is to be limited within certain well defined pre-determined positions. The switch is suitable for coupling directly with the motors, reduction gear shafts, rope drums etc. and are particularly suitable for DC application.

CONSTRUCTIONAL & OPERATIONAL FEATURES

- The limit switch has a spindle (drive shaft) with a key for mounting of the coupling. The spindle carries a worm-gear which drives a gear wheel mounted on the operating shaft carrying two numbers of
- Adjustable operating cams. When the spindle rotates and reaches extreme position. The corresponding cam presses against its contact assembly, opening the contact with snap action. Similarly when the direction of the spindle rotation is reversed, the other cam opens the second set of contacts in the other extreme position.
- The switch is fully adjustable as regards to contact opening and closing within 42 revolutions of the spindle in the case of switch having gear ratio 1:50 and within 63 revolutions of the spindle in the case of switch having gear ratio 1: 75. After operation the switch is reset by the spindle turning through maximum 1.5 revolution in the case of switch with gear ratio. 1:50 and 2.25 revolution in the case of switch with 1:75 gear ratio.

TECHNICAL DATA

- Ambient temperature: 55°C.
- Mounting Arrangement: Surface mounting.
- Housing : Provided with Cast Iron detachable Cast Aluminium cover
- Enclosure category: As per IP-55 of IS: 2147-1962.
- Cable entry : 2 Nos. 25mm conduit threaded entry.
- Terminals Suitable for conductor size 2.5mm².
- No. of contacts : 2
- (Electrically separated)
- Gear ratios (standard): 1: 50 or 1:75
- Eqvt. to : erst-while USSR type Yb-250T.
- Rated duty: 600 operation per hour



OPTIONAL EXTRAS

- Enclosure IP-65.
- Epoxy paint for special applications.
- Suitable base plate at bottom to match any mounting dimension. (furnish drawing).
- Reducer can be provided for cable entry suitable for 19mm conduit entry

RATED VOLTAGE	PERMISSIBLE CURRENT	MAKING CURRENT UPTO 500 V AC	BREAKING CURRENT INDUCTIVE LOAD (AMPA.)			
			DC			AC UPTO 500V
			110 V	220 V	440 V	
UPTO 500V AC	20A	100 A	2.5	2.0	0.5	20



SNAP ACTION LIMIT SWITCHES KLS-HD-30, KSA-300/311, KSA-347

APPLICATIONS :

- Small compact, used in control circuits for automatic position sensing for prevention of over travels or for position indication of equipments.
- **Optional extras**
Enclosure of superior degree.
- Suitable base plate at bottom to match any mounting dimension.(furnish drawing).
- Epoxy paint for special applications.
- Adopter can be provided for cable entry for 25 mm or 19 mm conduit entry.

COMMANDER CONTROLLER – CAM OPERATED ROTARY GEARED

LIMIT SWITCHES SERIES KTLS-4000

APPLICATIONS :

- Used in control circuits of cranes, hoists, winches and other drive mechanism where different predetermined positions of the travel path of the mechanism is to be sensed with precision, for controlling the various sequential operations of a group of inter related mechanisms.

CONSTRUCTIONAL & OPERATIONAL FEATURES

The limit switches are having one or two horizontal shaft extensions which are coupled with rotating shaft of rope drum/conveyor belt drum/gear box/motor or other rotating mechanism. Within the switch the horizontal shaft is coupled with a vertical drum shaft (KTLS-4608 series) or two horizontal drum shafts (KTLS-4108/4004 series) through a series of reduction gears. These arrangements translate the full length of the linear. motion of any mechanism to one rotation (360°) of drum shaft on which the adjustable operating CAMS are mounted at different positions to operate their corresponding contacts. In the limit switches with two horizontal drum shaft versions, the two drum shafts are connected with the reduction gear trains through one full gear or half gear, for simultaneous rotation or inturn rotation of the drum shafts respectively.

TECHNICAL FEATURES

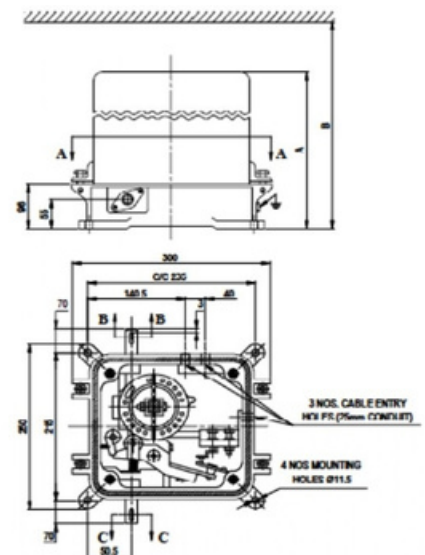
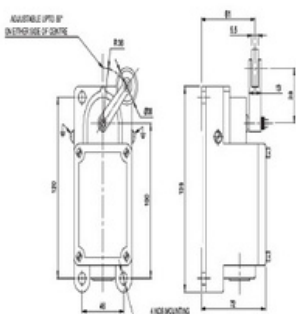
- Enclosure: IP54, Body: Cast iron / Al with sheet steel cover.
- Ambient temperature: 55 degree centigrade.
- Permissible operation: 30 Switching per minute.
- Electrical life: 1.5 millions operations.
- Mechanical life: 15 millions operations.

OPTIONAL EXTRAS

- Enclosure category IP55 or superior.
- Gear ratio other than that specified in the table.
- Epoxy paint for special applications.
- Reducer socket can provided at cable entry for 25mm of 19mm conduit

Fig. 1 : CAM OPERATED ROTARY GEARED SWITCH

Basic Type	No. of Contacts	A	B
KTLS - 4628	2	294	655
KTLS - 4648	4	386	745
KTLS - 4658	5	447	805
KTLS - 4668	6	506	865



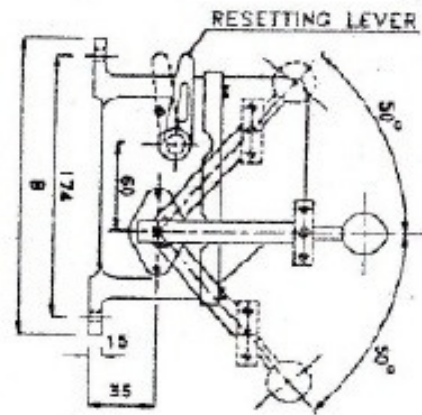
HEAVY DUTY PULL CORD SWITCHES

APPLICATIONS :

- Emergency stopping of conveyors belt by pulling the pull cords connected with the lever of the switch.

OPTIONAL EXTRAS:

- Better enclosure category. Epoxy paint for
- special applications. Single or double
- compression cable glands. Suitable base
- plate at bottom to match any mounting
- dimensions (furnish drawing). P.V.C
- covered pull cord galvanized steel rope, 7*7 construction, overall dia of pull cord rope 4-5 mm. Electronic monitoring & display system- indicates the serial no(s). of the switch(s) which has (have) been tripped. Maximum 99 nos, of switches can
- be connected to the system.



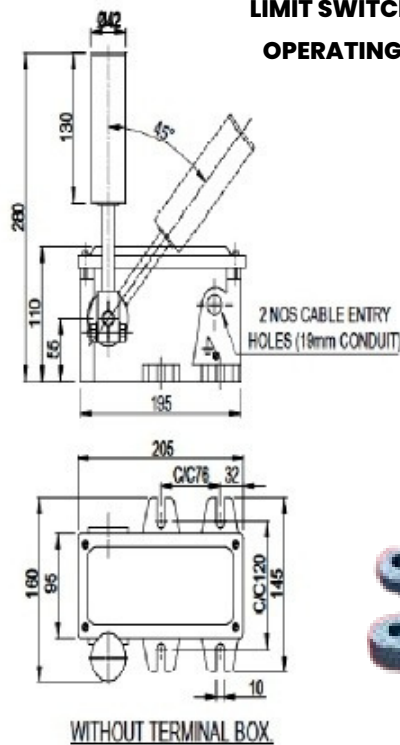
HEAVY DUTY BELT SWAY SWITCHES

APPLICATIONS :

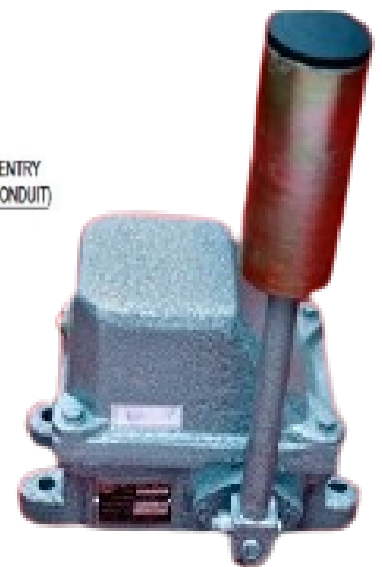
Protect conveyors belts from excessive side wise swaying

OPTIONAL EXTRAS:

- Better enclosure category.
- Epoxy paint for special applications.
- Single or double compression cable glands.
- Suitable base plate at bottom to match any mounting dimensions (furnish drawing).
- P.V.C covered pull cord galvanized steel rope, 7*7 construction, overall dia. of pull cord rope 4-5 mm.
- Electronic monitoring & display system- indicates the serial no(s). of the switch(s) which has (have) been tripped. Maximum 99 nos. of switches can be connected to the system



LIMIT SWITCH TYPE KLS-11D-63/64
OPERATING LEVER POSITION 10-1



BELTS WAY SWITCHES SERIES KCB
OPERATING LEVER POSITION 0-1