

DCA

DOG CLUTCH ACTUATOR



AT A GLANCE

- > MOTOR AND GEAR UNIT FOR PROVIDING NECESSARY PERFORMANCE.
- > SPRING ELEMENT FOR EFFICIENT ACTUATION OPTIMIZED FOR DOG-CLUTCH ACTUAL NEEDS.
- > SHIFT FORK FOR MANEUVERING THE CLUTCH SLEEVE.
- > SENSOR ON THE FORK FOR CONTROLLING THE ACTUATION PROCEDURE.
- > FEATURE FOR HOLDING THE FORK IN PLACE, I.E. DETENT FUNCTIONALITY.
- > OPTION OF HAVING EMBEDDED ELECTRONICS PLATFORM OR HARDWIRED SIGNALS.
- > SUITABLE APPLICATIONS MIGHT BE:
 - » CONNECT/DISCONNECT ELECTRICAL DRIVE AXLE UNIT ON PHEVS.
 - » CONNECT/DISCONNECT AWD COUPLING
 - » GEAR SHIFTING ON EV TRANSMISSIONS WITH DOG CLUTCH COUPLING WITHOUT SYNC.

PRODUCT DESCRIPTION

The actuator system manages the actuation of the dog-clutch coupling from vehicle input to the transmission shift sleeve. Designed for efficient actuation, meeting the needs of dog-clutch coupling with fast engagement and deep penetration while remaining strong during disengagement of the clutch.





MECHANICAL SPECIFICATION

AMBIENT TEMPERATURE RANGE:	-40°C to 125°C
NUMBER OF SHIFTS	>8 000 000
MAX DECOUPLING FORCE	1 500N
SHIFT STROKE	max ±12 mm
SHIFT TIME	approx. ±100 ms
INGRESS PROTECTION	IP6K7 / IP6K9K
LIFETIME	45 000 h / 15 years

ELECTRICAL SPECIFICATION

MOTOR OPERATING VOLTAGE	24V
MOTOR TYPE	BLDC 125W
ISO 26262 COMPLIANCE	ASIL B
COMMUNICATION	CAN FD
EMC COMPLIANCE	CISPR 25 class 3

UNIQUE AND BENEFICIAL INSTALLATION

- > DESIGNED FOR A SIMPLE INSTALLATION, FORK LEGS GO THROUGH TWO SMALL OBLONG HOLES ON TRANSMISSION HOUSING THEN SEALED BY TWO O-RINGS, PROTECTING TRANSMISSION INTERIOR ENCLOSURE FROM INGRESS. IT'S FIXED IN PLACE BY FOUR SCREWS.
- > TWO SMALLER HOLES RATHER THAN ONE BIG IS BENEFICIAL FOR BOTH TRANSMISSION CASE AND ACTUATOR STRUCTURAL ROBUSTNESS. THE TRANSMISSION WALL EFFICIENTLY SUPPORTS THE PIVOT FORCE OF THE LARGE FORK.



