

DIN EN 15714-2:2010-02 (E)

Industrial valves - Actuators - Part 2: Electric actuators for industrial valves - Basic requirements

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Classification/Designation	5
3.1	General	5
3.2	Type: Part-turn, multi-turn or linear	5
3.3	Actuator duty classification	6
3.3.1	General	6
3.3.2	Class A: On-off	6
3.3.3	Class B: Inching/positioning	6
3.3.4	Class C: Modulating	6
3.3.5	Class D: Continuous modulating	6
3.4	Action on loss of external electric power	6
3.4.1	Standard action	6
3.4.2	Fail safe action	6
4	Design requirements	6
4.1	Endurance	6
4.1.1	General	6
4.1.2	Part turn actuators	7
4.1.3	Multi-turn actuators	7
4.1.4	Linear actuators	8
4.2	Environmental conditions	8
4.2.1	General	8
4.2.2	Ambient temperature and humidity	8
4.2.3	Altitude	8
4.2.4	Enclosure protection	8
4.2.5	Hazardous areas	8
4.2.6	External corrosion protection	9
4.2.7	Vibrations, shock and seismic conditions	9
4.3	Actuator attachment	9
4.3.1	Part-turn actuators	9
4.3.2	Multi-turn actuators	10
4.3.3	Linear actuators	10
4.4	Standard closing direction	11
4.5	Fail safe direction	11
4.6	Electrical connections -- cable entries	12
4.7	Performance	12
4.7.1	Power supply tolerances	12
4.7.2	Actuator duty performances	12
4.7.3	Operating time and speed	14
4.8	Basic requirements	14
4.8.1	Motors	14
4.8.2	Gearing and lubrication	14
4.8.3	Manual operation	15
4.8.4	Travel limitation	15
4.8.5	Torque/Thrust limitation	15
4.8.6	End stop adjustment for part-turn and linear actuators	15

4.8.7	Local position indication	15
10	10 5.1 General	16
5.2	Anti-condensation heater	16
5.3	Local position indication (for multi-turn or linear actuators)	16
5.4	Position transmitter	16
5.5	Actuator running transmitter	16
5.6	Additional position and/or torque signalling	16
5.7	Local control station	16
5.8	Actuator electrical controls	16
5.8.1	General	16
5.8.2	Positioner	17
5.8.3	Controller	17
5.8.4	Speed Control	17
5.8.5	Field Bus system interface	17
5.8.6	Torque transmitter (analogue or digital)	17
5.8.7	Actuator performance data logger	17
6	Conformity assessment	17
6.1	General	17
6.2	Type tests	18
6.3	Control of production process and quality system	18
7	Marking	19
8	Documentation	20
	Annex A (normative) Endurance test procedure	21
A.1	General	21
A.2	Test equipment	21
A.3	Test conditions	21
A.4	Test procedure	21
A.5	Acceptance criteria	21
	Annex B (informative) Actuator selection guidelines	22
B.1	General	22
B.2	Selection parameters	22
B.2.1	General	22
B.2.2	Valve Questions	22
B.2.3	Actuator Questions	23
B.3	Ancillary Questions	23
B.4	Environmental conditions (as indicated in 4.2)	23
B.5	Actuator selection	23
	Bibliography	24
5	Optional equipment	16