

TCR-N ELECTRICAL ACTUATOR

FEATURES

The TCR-N electric actuators are intended for motorising ¼ turn valves with a torque of 15, 20, 50 or 110 Nm. With a compact construction and plastic housing, they are especially well suited for motorising ball valves and butterfly valves. Several variants offer advanced functions. IP67 leak-tightness: to be used indoors and, possibly, outdoors under a shelter. Possible installation in parallel. Manual control with a key.

AVAILABLE MODELS

Supply voltages: 230V AC, 24V AC/DC, 12V DC.

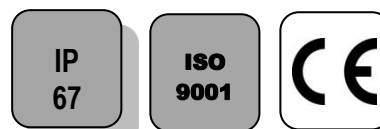


LIMITS OF USE

| | |
|---------------------|------------------------|
| IP Code | IP 67 |
| Ambient temperature | - 20°C / +60°C |
| Service factor | S4 - 50% |
| | S3 - 85% (TCR 20 – 40) |

MECHANICAL FEATURES

| | |
|-------------------|------------------------|
| Gear box | treated steel pinions |
| Torques | 15 - 20 - 50 - 110 Nm |
| Angle of rotation | 90° +/- 2° |
| Declutching | Without (TCR 02-05-11) |
| | With (TCR 20-40) |
| Override control | By key |



| Actuator | TCR 02N | | | TCR 05N | | |
|----------------------|-------------------|-----------|---------------|-------------------|-----------|---------------|
| | Torques (Nm) | 15 | 20 | 20 | 50 | |
| Voltage | 12V DC | 24V AC-DC | 95-265V AC-DC | 12VDC | 24V AC-DC | 95-265V AC-DC |
| Manoeuvring time (s) | 15 | 10 | 10 | 12 | 12 | 12 |
| ISO 5211: | F03/F05 - star 11 | | | F05/F07 - star 14 | | |

| Actuator | TCR 11N | | | TCR 20N | | | TCR 40N | | |
|----------------------|-------------------|-----------|---------------|-------------------|-----------|---------------|-------------------|-----------|---------------|
| | Torques (Nm) | 110 | | | 200 | | | 400 | |
| Voltage | 12V DC | 24V AC-DC | 95-265V AC-DC | 12VDC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC |
| Manoeuvring time (s) | 10 | 10 | 10 | 25 | 25 | 25 | 25 | 25 | 25 |
| ISO 5211: | F05/F07 - star 17 | | | F05/F07 - star 22 | | | F05/F07 - star 22 | | |

Information given as an indication only, and subject to possible modifications

| | | | |
|---|---|-------|------------|
|  | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 1/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

TCR-N ELECTRICAL ACTUATOR

ELECTRICAL FEATURES


| Actuator | TCR 02N | TCR 05N |
|-----------------------|---------------------------|---------------------|
| Motor protection | Thermal switch | |
| Limit switches | 2 adjustable switches | |
| Auxiliary switches | 2 adjustable dry switches | |
| Anti-condensation | integrated | |
| Electrical connection | PE M10 + 1.5m cable | PE M20 + 1.5m cable |

| Actuator | TCR 02N | | | TCR 05N | | |
|---------------------|---------|-----------|---------------|---------|-----------|---------------|
| Voltage | 12V DC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC |
| Power (W) | 15 | 15 | 15 | 25 | 25 | 25 |
| Current (A) | 1,5 | 1,5 | 0,09 | 1,67 | | 0,18 - 0,37 |
| Fuse Protection (A) | 5 | 5 | 1 | 8 | | 1 - 2 |

| Actuator | TCR 11N | TCR 20N | TCR 40N |
|-----------------------|---------------------------|-------------------------|-------------------------|
| Motor protection | Thermal switch | | |
| Limit switches | 2 adjustable switches | | |
| Auxiliary switches | 2 adjustable dry switches | | |
| Anti-condensation | Integrated | | |
| Electrical connection | 2 x PE M14 + 1,5m cable | 2 x PE M20 + 1.5m cable | 2 x PE M20 + 1,5m cable |

| Actuator | TCR 11N | | | TCR 20N | | | TCR 40N | | |
|---------------------|---------|-----------|---------------|---------|-----------|---------------|---------|-----------|---------------|
| Voltage | 12V DC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC |
| Power (W) | 100 | 100 | 100 | 50 | 50 | 50 | 80 | 80 | 80 |
| Current (A) | 2,5 | | 0,3 - 0,6 | 2 | | 0,22 | 3,3 | | 0,36 |
| Fuse Protection (A) | 5 | | 2 - 3 | 2 | | 5 | 2 | | 8 |

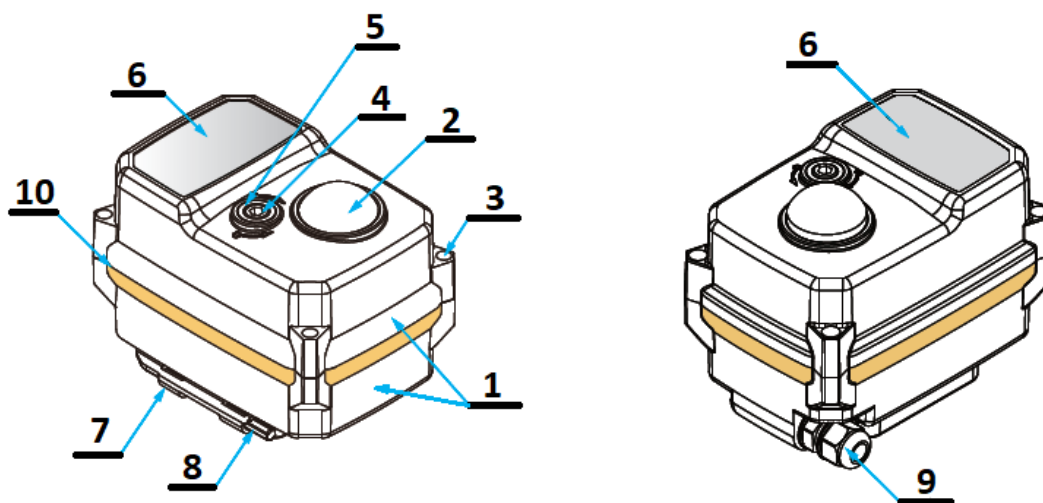
Information given as an indication only, and subject to possible modifications

| | | | |
|---|---|-------|------------|
|  | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 2/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

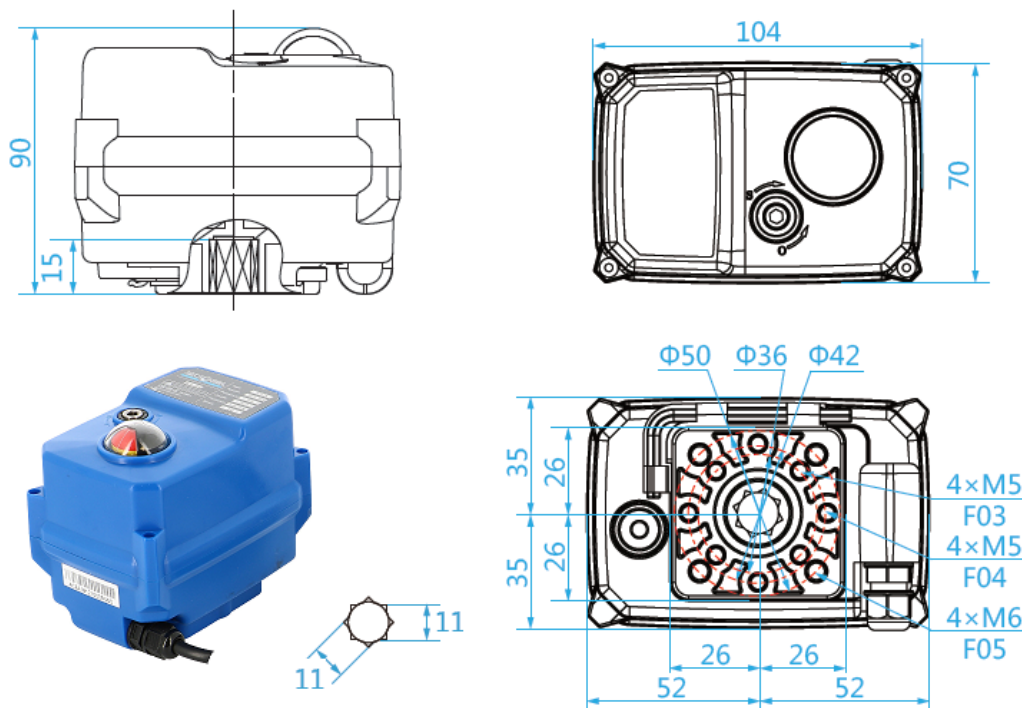
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-02N)


| TCR-02N | | | | | |
|--------------------|---------------------|-----------------------|-----|---------------|---------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | Plastic (ABS) | 6 | Rating plate | PVC |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic (ABS) |
| 3 | Screw x 4 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | Packing gland | Nylon |
| 5 | Gasket | NBR | 10 | Cover gasket | NBR |
| Weight (kg): 0.620 | | | | | |



DIMENSIONS (mm)



Information given as an indication only, and subject to possible modifications

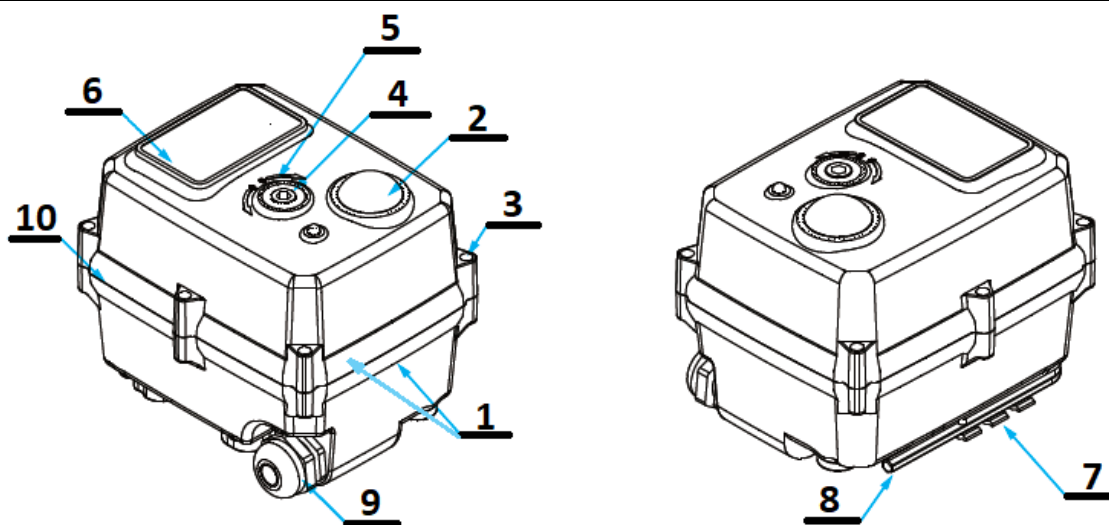
| | | | |
|---|---|-------|------------|
|  | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 3/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

TCR-N ELECTRICAL ACTUATOR

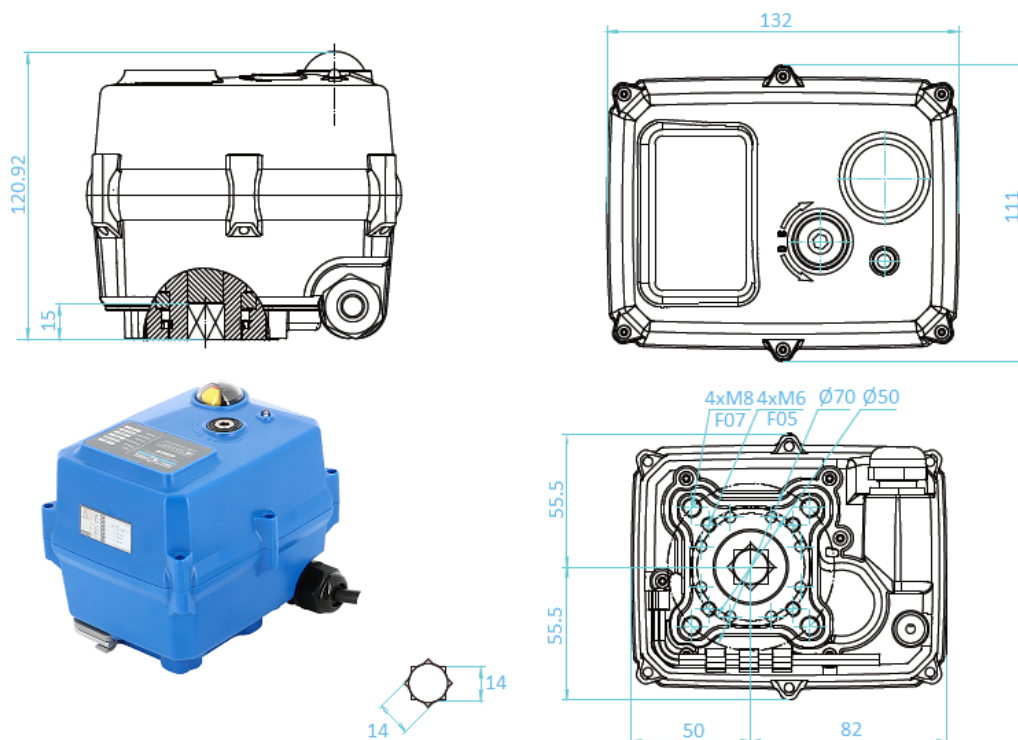
CONSTRUCTION (TCR-05N)

| TCR-05N | | | | | |
|---------|---------------------|-----------------------|-----|---------------|---------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | Plastic (ABS) | 6 | Rating plate | PVC |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic (ABS) |
| 3 | Screw x 6 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | Packing gland | Nylon |
| 5 | Gasket | NBR | 10 | Cover gasket | NBR |

Weight (kg): 1.800



DIMENSIONS (mm)



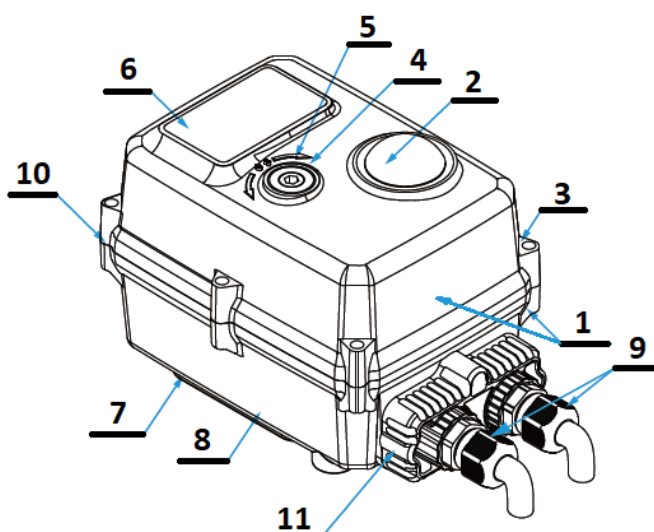
Information given as an indication only, and subject to possible modifications

| | | | |
|--|---|-------|------------|
| | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 4/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

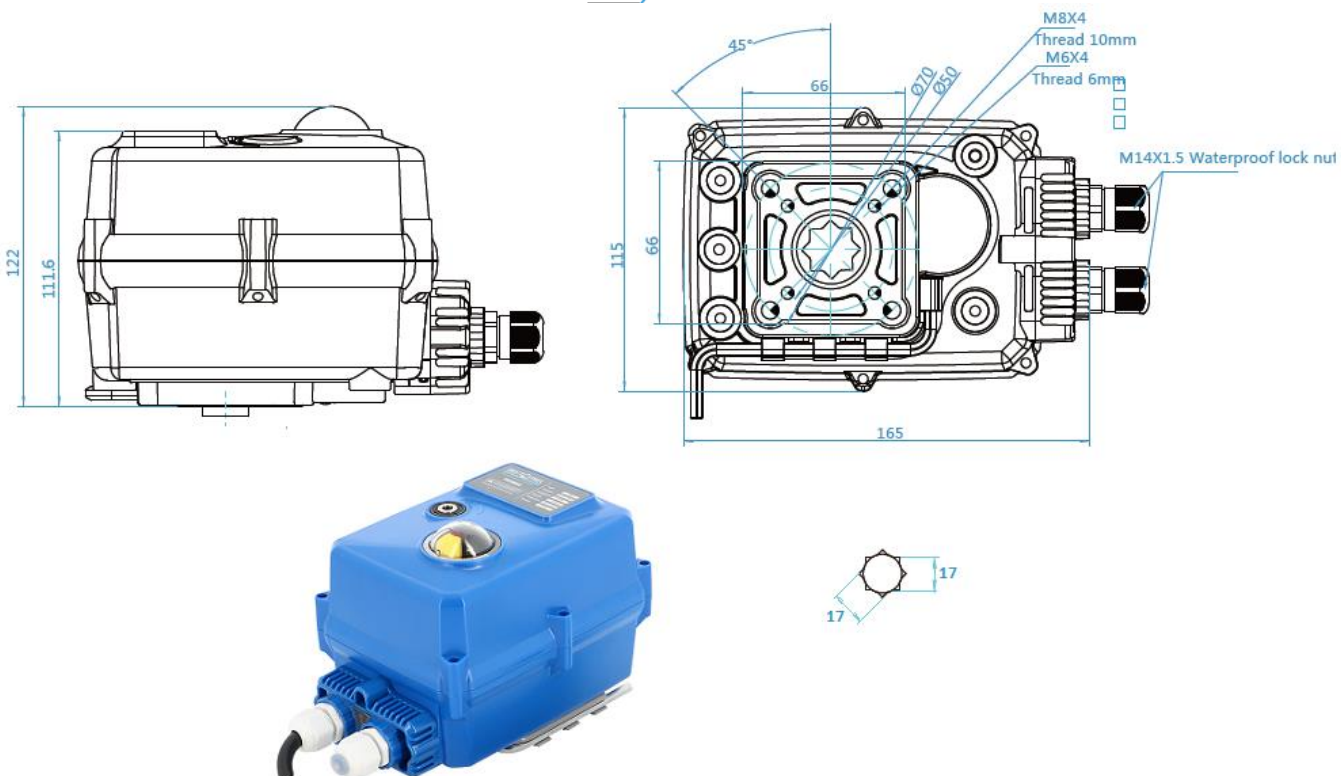
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-11N)

| TCR-11N | | | | | |
|--------------------|---------------------|-----------------------|-----|-------------------|---------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | Plastic (ABS) | 6 | Rating plate | PVC |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic (ABS) |
| 3 | Screw x 6 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | X 2 Packing gland | Nylon |
| 5 | Gasket | NBR | 10 | Cover gasket | NBR |
| Weight (kg): 2.200 | | | 11 | Cable gland unit | Plastic (ABS) |



DIMENSIONS (mm)



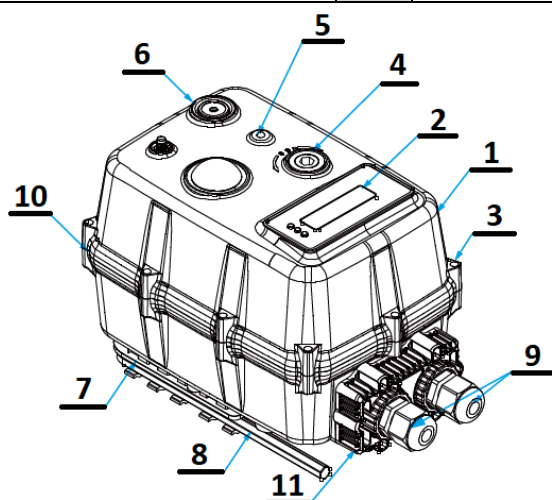
Information given as an indication only, and subject to possible modifications

| | | | |
|--|---|-------|------------|
| | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 5/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

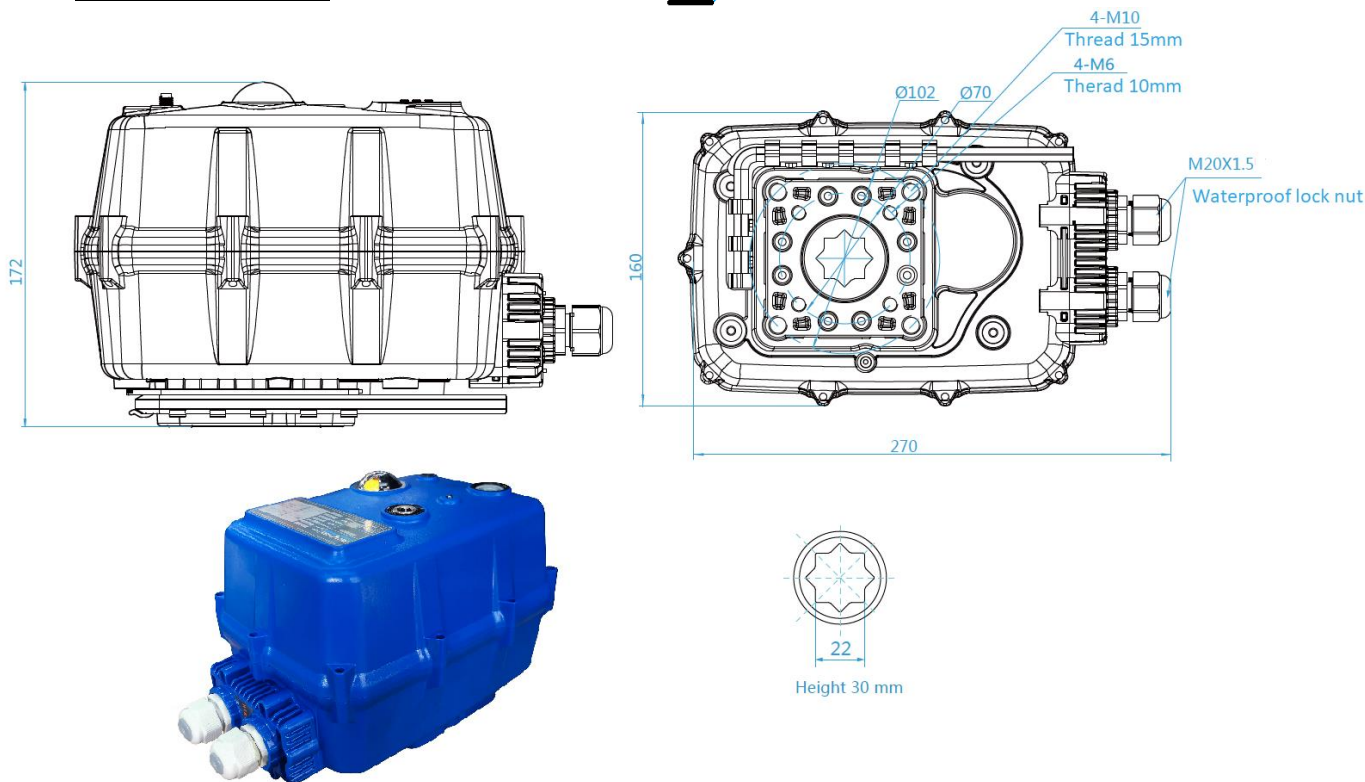
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-20N / TCR-40N)

| TCR-20N / TCR-40N | | | | | |
|---------------------|---------------------|-----------------------|-----|------------------|----------------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | PC + PET | 6 | Clutch | Polyoxymethylene POM |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic ABS |
| 3 | Screw x 6 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | X 2Packing gland | Nylon |
| 5 | LED | Transparent PC | 10 | Cover gasket | NBR |
| Weight (Kg) : 6,000 | | | 11 | Cable gland unit | Plastic ABS |



DIMENSIONS (mm)

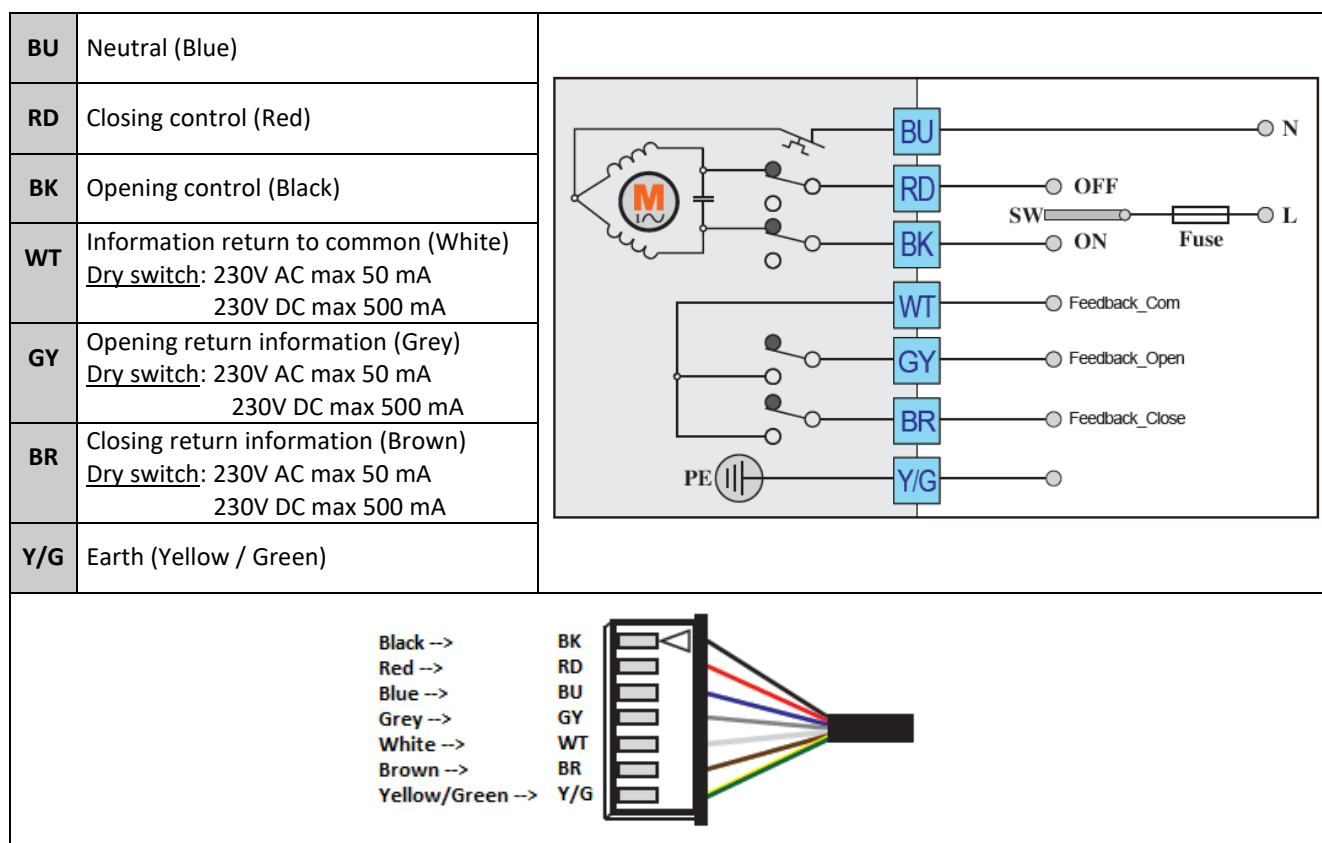


Information given as an indication only, and subject to possible modifications

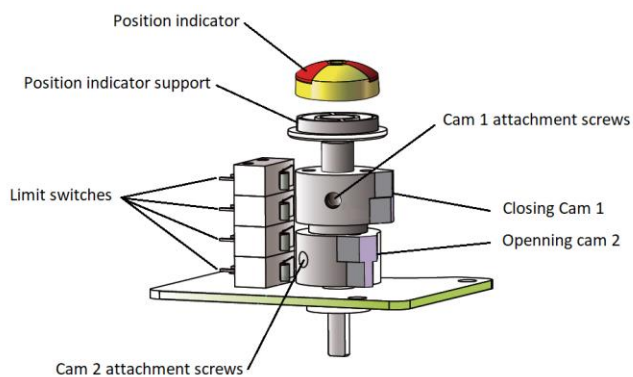
| | | | |
|---|---|-------|------------|
|  | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 6/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

TCR-N ELECTRICAL ACTUATOR

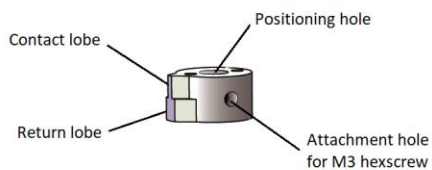
WIRING DIAGRAM



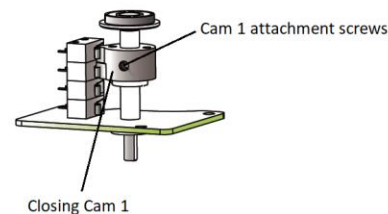
SWITCH SETTING



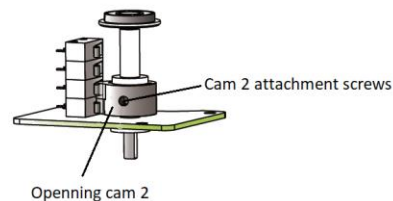
GENERAL VIEW



CAM DETAIL



CLOSING CAM ADJUSTMENT



OPENING CAM ADJUSTMENT

Information given as an indication only, and subject to possible modifications

| | | | |
|--|---|-------|------------|
| | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 7/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |

TCR-N ELECTRICAL ACTUATOR

TROUBLESHOOTING

| Defect met | Cause of defect | Method of solving |
|---|--|---|
| Inactive actuator | Non-connected electrical grid. | Connect to the electrical grid. |
| | Wrong voltage. | Check the actuator's voltage. |
| | Motor overheating. | Check the torque on the valve. |
| | Faulty connection. | Check the connection to the terminal box. |
| | Damaged start capacitor. | Contact the supplier for repair. |
| No switch signal | Faulty connection. | Check the connections. |
| | Damaged microswitch | Change the microswitch |
| Valve that is not fully closed | Use the return signal from the actuator check. | Receiving a return signal does not mean that the actuator is fully closed, hence do not cut the power supply. |
| | The hysteresis increases due to wear or between the actuator and the valve's stem. | Readjust the limit cams. Contact the supplier for repair. |
| Presence of humidity or water in the actuator | Unsuitable cable cross-section being used. | Contact the supplier for repair. |
| | The cable connection is not leak-tight. | |
| | Worn sealing gaskets. | |
| | Loose cover screws. | Dry the internal parts and tighten the cover screws. |

Information given as an indication only, and subject to possible modifications

| | | | |
|---|---|-------|------------|
|  | SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr | Pages | 8/8 |
| | | Ref. | FT2411 ENG |
| | | Rev. | 03 |
| | | Date | 04/2021 |