# AXT 111: Thermal drive for unit valves, with stroke indicator

For controllers with switched output (2-point). Used in conjunction with individual-room control systems (TSO, NRT, RDT, *ecos, ecolon*) for activating valves of the VUL, BUL and VXL, BXL series. Suitable for use with adaptors to upgrade existing systems. Position indicator in the drive's housing. Pure white housing (as per RAL 9010) of fire-retardant plastic. Can be changed from 'normally closed' to 'normally open' by removing a special piece. Fitted to valve with thread M30  $\times$  1,5. Fitting position: vertical to horizontal. White power cable of Ø 0,5 mm<sup>2</sup> or 0,75 mm<sup>2</sup>, fixed to the housing. Standard version has 1,2 m of cable.

| minmmNkgXT 111 F20034,5125closed (open)230 V~0,2XT 111 F20134,5125closed (open)110 V~0,2cluator with bayonet connection0,20,2XT 111 F50234,5125closed (open)24 V~/=0,2cluator with bayonet connection230 V~0,20,2XT 111 F50234,5125closed (open)24 V~/=0,2rives with in-built auxiliary contacts $^3$ and bayonet connection0,20,2XT 111 F21034,5125closed 230 V~0,2XT 111 F21234,5125closed 24V~/=0,2ower supply230 V~ $\pm 15\%$ , 5060 Hzbegree of protectionIP 42 (EN 60529110 V~ $\pm 10\%$ , 5060 Hzwith auxiliary contactsIP 44 (EN 60529ower consumption2,5 W3,0 W3 WWWith auxiliary contactsIP 44 (EN 60529ower consumption2,5 W3,0 W3 WDimension drawingF20.M08824ower ang temp.100°C at valve5060 HzWith auxiliary contactsF21.M10083mbient temperature-550 °C6 WWith auxiliary contactsF21.MV 505923mbient temperature-550 °CF50.MV 505923Declaration of materialsMD 55.012/55.01XT 111 F220As F200 (230 V-), but cable is 2 m and weight is 0,25 kgXT 111 F20As F20   | Туре  |   | ning<br>ne <sup>1)</sup>  |  | Spring<br>pressur   |   | Power  | Weight                           |
|--|---|---|---|--|---|---|--|----------------------------------|
| XT 111 F201 3 4,5 125 closed (open) 110 V~ 0,2   XT 111 F202 3 4,5 125 closed (open) 24 V~/= 0,2   XT 111 F500 3 4,5 125 closed (open) 230 V~ 0,2   XT 111 F502 3 4,5 125 closed (open) 24 V~/= 0,2   virves with in-built auxiliary contacts 3) and bayonet connection XT 111 F210 3 4,5 125 closed 230 V~ 0,2   XT 111 F212 3 4,5 125 closed 24V~/= 0,2   ower supply 230 V - $\pm 15\%$ . 5060 Hz Degree of protection IP 42 (EN 60529   ower consumption 230 V 110 V 24 V 24 V-/= 0,2   ower consumption 230 V 110 V 24 V 24 V IP 44 (EN 60529   on starting 36 W 25 W 6 W With auxiliary contacts A10006   Dimension drawing F20. M08924 With auxiliary contacts F20. M08925   on starting 36 W 25 W 6 W W With auxiliary contacts  |   |   |   |  | •   | •   |  | kg                               |
| XT 111 F202 3 4,5 125 closed (open) $24 V - /=$ 0,2   ctuator with bayonet connection XT 111 F500 3 4,5 125 closed (open) $230 V -$ 0,2   xT 111 F502 3 4,5 125 closed (open) $24V - /=$ 0,2   vives with in-built auxiliary contacts $^{3)}$ and bayonet connection XT 111 F210 3 4,5 125 closed $230 V -$ 0,2   XT 111 F212 3 4,5 125 closed $24V - /=$ 0,2   ower supply $230 V - \pm 10\%$ , 5060 Hz when fitted vertically IP 44 (EN 60529   110 V - $\pm 10\%$ , 5060 Hz when fitted vertically IP 44 (EN 60529   ower consumption 2,5 W 3,0 W 3 W   in operation 2,5 W 3,0 W 3 W   start-up current 150 mA 220 mA Dimension drawing F20. M0083   istar-up current 150 mA 220 mA Stom A Stom A Stom A Stom A   imbient humidity $< 95 \% h$ Declaration of materials MD 55.012/55.01   ariants   | AXT 111 F20   | 0   | 3   | 4,5  | 125   | closed (open)   | 230 V~   |                                  |
| Cluator with bayonet connection   XT 111 F500 3 4,5 125 closed (open) 230 V~ 0,2   XT 111 F502 3 4,5 125 closed (open) 24V~/= 0,2   XT 111 F210 3 4,5 125 closed 230 V~ 0,2   XT 111 F210 3 4,5 125 closed 230 V~ 0,2   XT 111 F210 3 4,5 125 closed 24V~/= 0,2   XT 111 F212 3 4,5 125 closed 24V~/= 0,2   XT 111 F210 3 4,5 125 closed 24V~/= 0,2   Were introper colspan="2">IP 44 (EN 60529   Ower consumption 230 V 110 V 24 V   into operation 2,5 W 3,0 W 3 W   on starting 36 W 25 W 6 W   start-up current 150 mA 220 mA 250 mA 250 mA   tot mathemperature -550 °C F50. M10414   |   |   |   |  |   |   |  |                                  |
| XT 111 F500 3 4,5 125 closed (open) 230 V~ 0,2   XT 111 F502 3 4,5 125 closed (open) 24V-/= 0,2   vrives with in-built auxiliary contacts 3) and bayonet connection XT 111 F210 3 4,5 125 closed 230 V~ 0,2   XT 111 F210 3 4,5 125 closed 24V-/= 0,2   ower supply 230 V~ $\pm$ 15%. 5060 Hz closed 24V-/= 0,2   ower consumption 230 V $\pm$ 10%, 5060 Hz begree of protection IP 44 (EN 60529   ower consumption 2,5 W 3,0 W 3 W with auxiliary contacts A10006   in operation 2,5 W 3,0 W 3 W With auxiliary contacts F20. M08925   on starting 36 W 25 W 6 W With auxiliary contacts F20. M00683   lax. operating temp. 100°C at valve F50. MV 505511 Wt 505511   mbient humidity 95 %rh F50. MV 505923 Declaration of materials MD 55.012/55.01   XT 111 F220 As F2  |   |   | -   | ) =  | 125   | closed (open)   | 24 V~/=  | 0,2                              |
| XT 111 F502 3 4,5 125 closed (open) $24V - /=$ 0,2   rives with in-built auxiliary contacts <sup>3)</sup> and bayonet connection XT 111 F210 3 4,5 125 closed 230 V~ 0,2   XT 111 F212 3 4,5 125 closed 24V -/= 0,2   ower supply 230 V~ ± 15%. 5060 Hz 100 V~ ± 10%, 5060 Hz When fitted vertically IP 42 (EN 60529   ower consumption 2,5 W 3,0 W 3 W W Wen fitted vertically IP 44 (EN 60529   ower consumption 2,5 W 3,0 W 3 W W Wen fitted vertically IP 44 (EN 60529   concetion diagram A08924 with auxiliary contacts F21. M0006   in operation 2,5 W 3 W Wen fitted vertically IP 44 (EN 60529   constarting 36 W 25 W 6 W With auxiliary contacts F21. M0083   start-up current 150 mA 220 mA 250 mA F50. MV 505822   mbient humidity < 95 %rh   |   |   |   |  | 105   |   | 000.1/   | 0.0                              |
| rives with in-built auxiliary contacts $^3$ and bayonet connection<br>XT 111 F210 3 4,5 125 closed 230 V~ 0,2<br>XT 111 F212 3 4,5 125 closed 24V~/= 0,2<br>ower supply 230 V~ $\pm$ 15%. 5060 Hz<br>110 V~ $\pm$ 10%, 5060 Hz<br>24 V~/= $\pm$ 20%, 5060 Hz<br>24 V~/= $\pm$ 20%, 5060 Hz<br>with auxiliary contacts IP 44 (EN 60529<br>cower consumption 230 V 110 V 24 V<br>in operation 2,5 W 3,0 W 3 W<br>on starting 36 W 25 W 6 W<br>start-up current 150 mA 220 mA 250 mA<br>lax. operating temp. 100°C at valve<br>mbient temperature $-550$ °C<br>mbient humidity $<$ 95 %rh<br>T111 F220 As F200 (230 V~), but cable is 2 m and weight is 0,25 kg<br>XT 111 F220 As F200 (230 V~), but cable is 2 m and weight is 0,25 kg<br>XT 111 F220 As F200 (230 V~), but cable is 3 m and weight is 0,25 kg<br>XT 111 F220 As F200 (230 V~), but cable is 4 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 4 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m with 0 0,75 mm <sup>2</sup> and weight is 0,40 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,38 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,48 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,55 kg<br>XT 111 F240 As F200 (230 V~), but cable is 5 m and weight is 0,55 kg<br>XT 111 F240 As F200 (230 V~), but cable is 10 m and weight is 0,75 kg<br>XT 111 F240 As F200 (230 V~), but cable is 10 m and weight is 0,75 kg<br>XT 111 F240 As F200 (230 V~), but cable is 10            |   | -   |   |  |   |   |  |                                  |
| XT 111 F210 3 4,5 125 closed 230 V~ 0,2   XT 111 F212 3 4,5 125 closed 24V~/= 0,2   ower supply 230 V~ $\pm$ 15%. 5060 Hz 24V~/= 0,2   110 V~ $\pm$ 10%, 5060 Hz when fitted vertically IP 42 (EN 60529   ower consumption 230 V 110 V 24 V   in operation 2,5 W 3,0 W 3 W   on starting 36 W 250 W 6 W   start-up current 150 mA 220 mA 250 mA Event and the auxiliary contacts F20.   Miss acture -550 °C mbient temperature -550 °C F50. M10414   Fitting instructions F20. MV 505511 with auxiliary contacts F20. MV 505822   mbient humidity 95 %rh Declaration of materials MD 55.012/55.01   ariants XT 111 F220 As F200 (230 V~), but cable is 2 m and weight is 0,25 kg XT 111 F220 As F200 (230 V~), but cable is 3 m and weight is 0,35 kg   XT 111 F230 As F200 (230 V~), but cable is 3 m and weight is 0,35 kg XT 111 F24 As F202 (24 V~), but cable is 5 m with 0 0,75 mm2  |   |   |   | ,  |   |   | 24V~/=   | 0,2                              |
| XT 111 F21234,5125closed $24V_{-/=}$ 0,2ower supply230 V-<br>± 10%, 5060 Hz<br>24 V-/=± 10%, 5060 Hz<br>± 20%, 5060 HzDegree of protection<br>when fitted verticallyIP 42 (EN 60529<br>With auxiliary contactsIP 44 (EN 60529<br>With auxiliary contactsower consumption230 V110 V24 V<br>24 V-/=230 V110 V24 V<br>24 V<br>24 Vin operation2,5 W3,0 W3 W<br>3 W<br>on starting36 W25 W6 W<br>50 MAstart-up current150 mA220 mA250 mAlax. operating temp.100°C at valve<br>-550 °C<br>mbient humidity-550 °C<br>< 50 °C<br>mbient humidityMV 505511<br>with auxiliary contactsF20.MV 505523<br>F50.ariants<br>XT 111 F220As F200 (230 V-), but cable is 2 m and weight is 0,25 kg<br>XT 111 F232MS F200 (230 V-), but cable is 2 m and weight is 0,25 kg<br>XT 111 F232MS F200 (230 V-), but cable is 3 m and weight is 0,35 kg<br>XT 111 F232XT 111 F240As F200 (230 V-), but cable is 3 m and weight is 0,35 kg<br>XT 111 F232As F202 (24 V-), but cable is 3 m and weight is 0,35 kg<br>XT 111 F240XT 111 F242As F200 (230 V-), but cable is 5 m with Ø 0,75 mm² and weight is 0,45 kg<br>XT 111 F242XT 111 F240As F200 (230 V-), but cable is 5 m and weight is 0,45 kg<br>XT 111 F240XT 111 F240As F200 (230 V-), but cable is 5 m and weight is 0,45 kg<br>XT 111 F240XT 111 F240As F200 (230 V-), but cable is 5 m and weight is 0,55 kgXT 111 F240As F200 (230 V-), but cable is 5 m and weight is 0,54 kg<br>XT 111 F240XT 111 F240  |   |   |   |  |   |   | 000.1/   |                                  |
| ower supply $230 V_{-}$ $\pm 15\%$ . 5060 HzDegree of protectionIP 42 (EN 60529 $110 V_{-}$ $\pm 10\%$ , 5060 Hzwhen fitted verticallyIP 44 (EN 60529 $24 V_{-/=}$ $\pm 20\%$ , 5060 Hzwhen fitted verticallyIP 44 (EN 60529ower consumption $230 V$ $110 V$ $24 V$ in operation $2,5 W$ $3,0 W$ $3 W$ on starting $36 W$ $25 W$ $6 W$ start-up current $150 mA$ $220 mA$ $250 mA$ lax. operating temp. $100^{\circ}C$ at valveF20.M08925mbient temperature $-550 °C$ F20.MV 505511mbient humidity $< 95 ~rh$ Declaration of materialsMD 55.012/55.01XT 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kgMV 505923XT 111 F232As F200 (230 V~), but cable is 3 m with $0 0,75 mm^2$ and weight is 0,38 kgXT 111 F232XT 111 F240As F200 (230 V~), but cable is 3 m and weight is 0,35 kgXT 111 F240XT 111 F240As F200 (230 V~), but cable is 4 m and weight is 0,38 kgXT 111 F240XT 111 F250As F200 (230 V~), but cable is 5 m with $0 0,75 mm^2$ and weight is 0,45 kgXT 111 F250As F200 (230 V~), but cable is 5 m and weight is 0,46 kgXT 111 F270As F200 (230 V~), but cable is 7 m and weight is 0,45 kgXT 111 F272As F200 (230 V~), but cable is 7 m and weight is 0,45 kgXT 111 F274As F200 (230 V~), but cable is 7 m and weight is 0,75 kgXT 111 F274As F200 (230 V~), but cable is 7 m and weight is 0,75 kgXT 111 F274<  |   |   | -   | ,  | -   |   |  | ,                                |
| $\begin{array}{c} 110 \ V_{-} \pm 10\%, \ 5060 \ Hz \\ 24 \ V_{-/} \pm 20\%, \ 5060 \ Hz \\ 24 \ V_{-/} \pm 20\%, \ 5060 \ Hz \\ 24 \ V_{-/} \pm 20\%, \ 5060 \ Hz \\ 230 \ V \ 110 \ V \ 24 \ V \\ in operation \\ on starting \\ 36 \ W \ 25 \ W \ 3,0 \ W \ 3 \ W \\ start-up current \\ 150 \ mA \ 220 \ mA \ 250 \ mA \\ start-up current \\ 150 \ mA \ 220 \ mA \ 250 \ mA \\ start-up current \\ 150 \ mA \ 220 \ mA \ 250 \ mA \\ resultance between the measure \\ -550 \ ^{\circ}C \\ mbient \ temperature \\ -550 \ ^{\circ}C \\ mbient \ 100^{\circ}C \ at \ valve \\ mbient \ buildiary \ contacts \\ F21. \ MV \ 505822 \\ F50. \ MV \ 505923 \\ Declaration \ of \ materials \\ MD \ 55.012/55.01 \\ MD \ 5$ | AXI III F21   | 2   | 3   | 4,5  | 125   | ciosed  | 24V~/=   | 0,2                              |
| $\begin{array}{c c c c c c c c c c c c c c c c c c c $   | Power supply  | 230 V~  | ± 15%   | . 5060 H   | Z   | Degree of protection  |  | IP 42 (EN 60529)                 |
| ower consumption<br>in operation230 V110 V24 VConnection diagramA08924ower consumption<br>in operation2,5 W3,0 W3 Wwith auxiliary contactsA10006on starting36 W25 W6 WDimension drawingF20.M08925start-up current150 mA220 mA250 mAF50.M10414lax. operating temp.100°C at valve<br>$-550$ °CF21.MV 505511mbient temperature<br>mbient humidity-550 °CF20.MV 505522mbient humidity< 95 %rh  |   | 110 V~  | ± 10%   | , 5060 H   | z   | when fitted vertical  | lly  | IP 44                            |
| ower consumption230 V110 V24 Vwith auxiliary contactsA 10006in operation $2,5$ W $3,0$ W $3$ W   |   | 24 V~/=   | ± 20%   | , 5060 H   | z   | with auxiliary co   | ontacts  | IP 44 (EN 60529)                 |
| in operation $2,5$ W $3,0$ W $3$ W $3$ W $36$ W $25$ W $6$ Wstart-up current $150$ mA $220$ mA $250$ mA $150$ mA $220$ mA $250$ mA $100^{\circ}$ C at valvewith auxiliary contacts $F20.$ $M08925$ mbient temperature $-550^{\circ}$ C $-550^{\circ}$ C $-550^{\circ}$ C $-550^{\circ}$ C $MV$ $505923$ mbient humidity $< 95^{\circ}$ %rh $Pclaration of materials$ $MD$ $55.012/55.0^{\circ}$ ariants $XT$ 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kg $MD$ $55.012/55.0^{\circ}$ $XT$ 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kg $XT$ 111 F220 $As$ F202 (24 V~), but cable is 3 m and weight is 0,25 kg $XT$ 111 F220As F200 (230 V~), but cable is 3 m and weight is 0,35 kg $XT$ 111 F220 $As$ F200 (230 V~), but cable is 4 m and weight is 0,35 kg $XT$ 111 F220As F200 (230 V~), but cable is 5 m and weight is 0,36 kg $XT$ 111 F220 $As$ F200 (230 V~), but cable is 5 m and weight is 0,36 kg $XT$ 111 F220As F200 (230 V~), but cable is 5 m and weight is 0,38 kg $XT$ 111 F250 $As$ F200 (230 V~), but cable is 5 m and weight is 0,4 kg $XT$ 111 F270As F200 (230 V~), but cable is 7 m and weight is 0,4 kg $XT$ 111 F272 $As$ F200 (230 V~), but cable is 7 m and weight is 0,5 kg $XT$ 111 F280As F200 (230 V~), but cable is 10 mm and weight is 0,7 5 mm² and weight is 0,75 kg $XT$ 111 F280 $XT$ 111 F280As F200 (230 V~), but cable is 10 mm and weight is 0,7 5 mm² and weight is 0,95 kg $XT$ 111 F280As F200 (230 V~), bu  |   |   |   |  |   | Connection diagram  |  | A08924                           |
| on starting<br>start-up current36 W25 W6 Wstart-up current150 mA220 mA250 mAlax. operating temp.<br>mbient temperature<br>mbient humidity100°C at valve<br>-550 °C<br>< 95 %rh   | Power consum  | ption   | 230 V   | 110 V  | 24 V  | with auxiliary co   | ontacts  | A10006                           |
| start-up current150 mA220 mA250 mAF50.M10414lax. operating temp.100°C at valve-550 °Cwith auxiliary contactsF21.MV 505511mbient temperature-550 °C-550 °CDeclaration of materialsMD 55.012/55.01mbient humidity< 95 %rh  | in operation  |   | 2,5 W   | 3,0 W  | 3 W   |   |  | M08925                           |
| start-up current150 mA220 mA250 mAF50.M10414lax. operating temp.100°C at valve-550 °Cwith auxiliary contactsF21.MV 505511mbient temperature-550 °C-550 °CDeclaration of materialsMD 55.012/55.01mbient humidity< 95 %rh  |   |   | 36 W  | 25 W   | 6 W   | with auxiliary co   | ntacts F21.  | M10083                           |
| Iax. operating temp. $100^{\circ}C$ at valve<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-550^{\circ}C$<br>$-5$  | start-up curre  | ent   | 150 m   | A 220 mA   | 250 mA  |   | F50.   | M10414                           |
| mbient temperature<br>mbient humidity $-550 \text{ °C}$<br>$< 95 \text{ %rh}$ F50.MV 505923<br>MD 55.012/55.01ariantsXT 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kgXT 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kgXT 111 F220As F200 (230 V~), but cable is 3 m with $\emptyset$ 0,75 mm² and weight is 0,38 kgXT 111 F230As F200 (230 V~), but cable is 3 m and weight is 0,35 kgXT 111 F240As F200 (230 V~), but cable is 4 m and weight is 0,35 kgXT 111 F240As F200 (230 V~), but cable is 4 m and weight is 0,38 kgXT 111 F242As F200 (230 V~), but cable is 5 m with $\emptyset$ 0,75 mm² and weight is 0,40 kgXT 111 F252As F200 (230 V~), but cable is 5 m with $\emptyset$ 0,75 mm² and weight is 0,45 kgXT 111 F252As F200 (230 V~), but cable is 5 m and weight is 0,4 kgXT 111 F274As F200 (230 V~), but cable is 7 m with $\emptyset$ 0,75 mm² and weight is 0,55 kgXT 111 F275As F200 (230 V~), but cable is 7 m and weight is 0,5 kgXT 111 F276As F200 (230 V~), but cable is 7 m and weight is 0,5 kgXT 111 F276As F200 (230 V~), but cable is 10 m mwith $\emptyset$ 0,75 mm² and weight is 0,75 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 15 m with $\emptyset$ 0,75 mm² and weight is 0,95 kg  |   |   |   |  |   |   |  |                                  |
| mbient humidity< 95 %rhDeclaration of materialsMD 55.012/55.01ariantsXT 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kgXT 111 F222As F202 (24 V~), but cable is 2 m and weight is 0,25 kgXT 111 F232As F200 (230 V~), but cable is 3 m with $\emptyset$ 0,75 mm² and weight is 0,38 kgXT 111 F232As F202 (24 V~), but cable is 3 m and weight is 0,35 kgXT 111 F240As F200 (230 V~), but cable is 4 m with $\emptyset$ 0,75 mm² and weight is 0,40 kgXT 111 F242As F202 (24 V~), but cable is 4 m and weight is 0,38 kgXT 111 F250As F200 (230 V~), but cable is 5 m with $\emptyset$ 0,75 mm² and weight is 0,45 kgXT 111 F252As F202 (24 V~), but cable is 5 m and weight is 0,4 kgXT 111 F252As F200 (230 V~), but cable is 7 m with $\emptyset$ 0,75 mm² and weight is 0,55 kgXT 111 F274As F200 (230 V~), but cable is 7 m and weight is 0,5 kgXT 111 F275As F200 (230 V~), but cable is 10mm with $\emptyset$ 0,75 mm² and weight is 0,75 kgXT 111 F284As F200 (230 V~), but cable is 10mm with $\emptyset$ 0,75 mm² and weight is 0,75 kgXT 111 F284As F200 (230 V~), but cable is 10mm with $\emptyset$ 0,75 mm² and weight is 0,95 kgXT 111 F280As F200 (230 V~), but cable is 10mm with $\emptyset$ 0,75 mm² and weight is 0,95 kgXT 111 F290As F200 (230 V~), but cable is 10m mith $\emptyset$ 0,75 mm² and weight is 0,95 kg   |   |   |   |  |   | with auxiliary co   | ntacts F21.  | MV 505822                        |
| ariantsXT 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kgXT 111 F222As F202 (24 V~), but cable is 2 m and weight is 0,25 kgXT 111 F230As F200 (230 V~), but cable is 3m with Ø 0,75 mm² and weight is 0,38 kgXT 111 F232As F202 (24 V~), but cable is 3 m and weight is 0,35 kgXT 111 F240As F200 (230 V~), but cable is 4 m with Ø 0,75 mm² and weight is 0,40 kgXT 111 F242As F202 (24 V~), but cable is 4 m and weight is 0,38 kgXT 111 F242As F200 (230 V~), but cable is 5 m with Ø 0,75 mm² and weight is 0,45 kgXT 111 F250As F200 (230 V~), but cable is 5 m and weight is 0,48 kgXT 111 F252As F200 (230 V~), but cable is 5 m and weight is 0,4 kgXT 111 F274As F200 (230 V~), but cable is 7 m with Ø 0,75 mm² and weight is 0,55 kgXT 111 F275As F200 (230 V~), but cable is 7 m and weight is 0,5 kgXT 111 F276As F200 (230 V~), but cable is 10mm with Ø 0,75 mm² and weight is 0,75 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 15 m with Ø 0,75 mm² and weight is 0,95 kg  |   |   |   |  |   |   | F50.   | MV 505923                        |
| XT 111 F220As F200 (230 V~), but cable is 2 m and weight is 0,25 kgXT 111 F222As F202 (24 V~), but cable is 2 m and weight is 0,25 kgXT 111 F230As F200 (230 V~), but cable is 3 m with $\emptyset$ 0,75 mm² and weight is 0,38 kgXT 111 F232As F202 (24 V~), but cable is 3 m and weight is 0,35 kgXT 111 F240As F200 (230 V~), but cable is 4 m with $\emptyset$ 0,75 mm² and weight is 0,40 kgXT 111 F242As F202 (24 V~), but cable is 4 m and weight is 0,38 kgXT 111 F242As F202 (24 V~), but cable is 4 m and weight is 0,38 kgXT 111 F252As F200 (230 V~), but cable is 5 m with $\emptyset$ 0,75 mm² and weight is 0,45 kgXT 111 F252As F200 (230 V~), but cable is 5 m and weight is 0,4 kgXT 111 F274As F200 (230 V~), but cable is 7 m with $\emptyset$ 0,75 mm² and weight is 0,55 kgXT 111 F274As F200 (230 V~), but cable is 7 m and weight is 0,55 kgXT 111 F275As F200 (230 V~), but cable is 10 m mwith $\emptyset$ 0,75 mm² and weight is 0,75 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 10 m and weight is 0,7 kgXT 111 F280As F200 (230 V~), but cable is 15 m with $\emptyset$ 0,75 mm² and weight is 0,95 kg   | Ambient humid   | ity   | < 95 %  | 6rh  |   | Declaration of materia  | als  | MD 55.012/55.012                 |
|  | AXT 111 F240<br>AXT 111 F242<br>AXT 111 F250<br>AXT 111 F250<br>AXT 111 F252<br>AXT 111 F270<br>AXT 111 F270<br>AXT 111 F270<br>AXT 111 F280<br>AXT 111 F290<br>AXT 111 F292  | As F200<br>As F202<br>As F202<br>As F202<br>As F202<br>As F202<br>As F202<br>As F202<br>As F202<br>As F202  | ) (230 V<br>2 (24 V~<br>) (230 V                                    | $\langle - \rangle$ , but cable<br>$\langle - \rangle$ , but cable | e is 4m wi<br>e is 4 m and<br>le is 5 m wi<br>e is 5 m and<br>le is 7 m wi<br>e is 7 m and<br>le is 10 m and<br>e is 10 m and<br>le is 15 m wi  | th Ø $0,75 \text{ mm}^2$ and we<br>d weight is 0,38 kg<br>th Ø $0,75 \text{ mm}^2$ and we<br>d weight is 0,4 kg<br>th Ø $0,75 \text{ mm}^2$ and we<br>d weight is 0,5 kg<br>with Ø $0,75 \text{ mm}^2$ and<br>hd weight is 0,7 kg<br><i>v</i> ith Ø $0,75 \text{ mm}^2$ and w               | ight is 0,45 kg<br>ight is 0,55 kg<br>weight is 0,75   | i<br>i<br>i kg                   |
| EXV 006Electric distributor for control signals; see Section 55371235 001Adaptor for fitting onto Oventrop valves (M30 × 1)371245 001Adaptor for fitting to Danfoss valves of type RA 2000 (e.g. RA-N, Ø 22 mm)371356 001Adaptor for fitting to Beulco or Tobler underfloor-heating distributors (M30 × 1)371357 001Adaptor for fitting to Danfoss valves of type R450, R452, R456 and 60 series371357 001Adaptor for fitting to Danfoss valves of type RAVL (Ø 26 mm)371360 001Adaptor for fitting to Danfoss valves of type RAV (Ø 34 mm)371361 001Adaptor for fitting to Herz valves of type Herz-TS'90 (M28 × 1,5)371363 001Adaptor for fitting to Markaryd valves (Swedish product) (M28 × 1,5)371540 001*Protective housing <sup>2</sup> ), against vandalism and theft for VUL, VXL and BUL valves. Not for<br>F210; F212 and not for VXL015F500; VXL020F500 and BXL valves; MV 505656371557 001*Auxiliary contacts; 5(2) A; 230 V; can be fitted later as per MV 505632 for the 'NC/NO'  | Accessories<br>FXV 006<br>0371235 001<br>0371245 001<br>0371356 001<br>0371357 001<br>0371359 001<br>0371360 001<br>0371361 001<br>0371363 001<br>0371916 001<br>0371557 001* | Electric of<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Adaptor i<br>Protective<br>F210; F2<br>Auxiliary | for fitting<br>for fitting<br>for fitting<br>for fitting<br>for fitting<br>for fitting<br>for fitting<br>for fitting<br>for fitting<br>and i<br>2 and i<br>contacts | g onto Ove<br>g to Danfos<br>g to Beulco<br>to Giacom<br>g to Danfos<br>g to Danfos<br>g to Herz vi<br>g to Herz vi<br>g to Markai<br>g to Markai<br>g to Markai<br>g to YXL0<br>s; 5(2) A; 25   | ntrop valve<br>ss valves of<br>o or <i>Tobler</i> of<br><i>ini</i> valves o<br>ss valves of<br>alves of typ<br><i>Anderssor</i><br>ryd valves (<br>t vandalism<br>015F500; V.<br>30 V; can be | s (M30 × 1)<br>type RA 2000 (e.g. R<br>underfloor-heating dist<br>f type R450, R452, R4<br>type RAVL (Ø 26 mm<br>type RAV (Ø 34 mm))<br>the Herz-TS'90 (M28 ×<br>valves of type TA/RV<br>Swedish product) (M2<br>and theft for VUL, VXL<br>XL020F500 and BXL vi<br>e fitted later as per MV | tributors (M30<br>56 and 60 seri<br>1)<br>1,5)<br>/T (M28 × 1,5)<br>28 × 1,5)<br>- and BUL valv<br>alves; MV 505 | × 1)<br>es<br>es. Not for<br>656 |
| 371557 001* Auxiliary contacts; 5(2) A; 230 V; can be fitted later as per MV 505632 for the 'NC/N function; cut-in point 1,5 mm stroke ± 0,75 mm<br>Dimension drawing or wiring diagram are available under the same number  | 0371557 001*  |   | cut-in p  |  |   |   | 505632 for the   | e 'NC/N                          |

1) For 3 mm stroke when starting from cold

2) Also suitable for combinations with MNG or Heimeier valves or valves with a connection thread of M30 × 1,5

3) Auxiliary contacts 5(2) A, 230 V; cut-in point 1,5 mm, stroke  $\pm$  0,75 mm













## Operation

The actuator has an electrically heated, overrun-proof expansion element which transfers its stroke direct to the valve. It works silently and requires no maintenance.

When the heating element is switched on from cold, the valve (after a warming-up time of about 1,3 minutes) starts to open and has performed 3 mm of stroke after approx. 1,7 minutes. The closing operation is symmetrical (with regard to time) to the opening operation: the expansion element cools down and the valve is closed by spring pressure. The drive's direction of operation can be changed by removing a special piece and then turning a screw.

'Normally closed' (factory setting):-

- Drive has power applied: valve with pushing plug (as types VUL, VXL, BUL), from closed to open.
- Drive has power applied: valve with hanging plug (as type BXL), from open to closed.

'Normally open' (piece removed):-

- Drive has power applied: valve with pushing plug (as type VUL, VXL, BUL), from open to closed.
- Drive has power applied: valve with hanging plug (as type BXL), from closed to open.

With a 'pulse-pause' clock signal, which effects a periodic open/close position, a quasi-continuous control system can be achieved with a cycle duration of 4 minutes. Permissible cycle duration: either < 4 min or > 12 min. Using the auxiliary contacts (which are available as an accessory and can be fitted later), a circulation pump or a heat counter, for instance, can be switched on.

The auxiliary contacts switch between 35% and 50% stroke. The rating for these auxiliary contacts is 3 A for ohmic load and 2 A for inductive load. The contacts close when the stroke reaches 35% or 50%.

### Engineering and fitting notes

Before choosing the switching contacts and the mains fuses, the inrush current of the heating element should be taken into account. To ensure that the given running time can be achieved, the voltage loss in the electric cables should not exceed 10%.

The way to change from 'normally closed' to 'normally open' is described in MV 505511. The position indicator shows which function has been set. When the red indicator is inserted in a black plastic piece, the 'normally closed' function is activated. When the red indicator is inserted in a white plastic piece, the 'normally open' setting is active.

On the 'normally closed' standard version, the valve can, in the event of a power failure, be opened by removing the drive. No tools should be used to fit the actuator to the valve: turning by hand is quite sufficient.

Fitting outdoors. If the devices are fitted outdoors, we recommend that additional measures be taken to protect them against the effects of the weather.

#### Standards and regulations

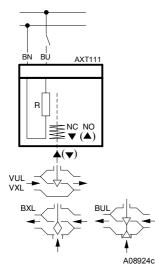
The actuator is tested to the requisite standards and complies with the relevant EU regulations.

## Additional technical data

Rating of auxiliary switch when used with direct current: 4...30 V, 1...100 mA

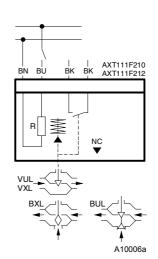
| AXT 111 F200<br>Complies with:- |  | AXT 111 F202<br>Complies with:- |                            |
|---------------------------------|--|---------------------------------|----------------------------|
| Directive 2006/95/EC            | EN 60730-1/ EN 60730-2-14                                | EMC directive 2004/108/EC       | EN 61000-6-1/ EN 61000-6-2 |
| EMC directive 2004/108/EC       | EN 61000-6-1/ EN 61000-6-2<br>EN 61000-6-3/ EN 61000-6-4 |                                 | EN 61000-6-3/ EN 61000-6-4 |

#### Wiring diagram





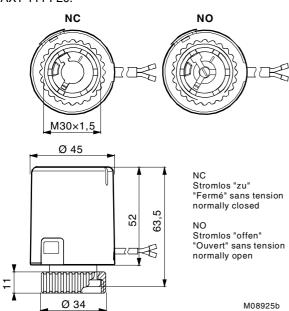
BN = brown BU = blue BK = black RD = red WH = white



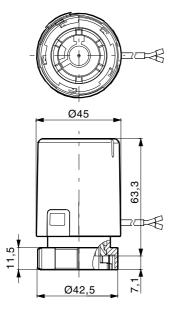


## **Dimension drawing**





AXT 111 F50.

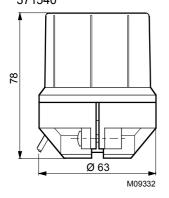


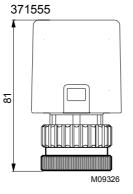


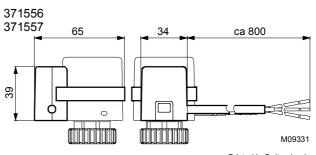
M10414

Accessories

371540



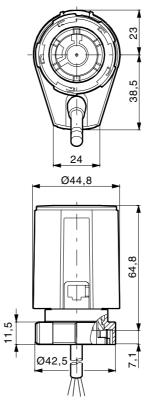


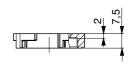


**Sauter Components** 

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AXT 111 F21.





M30×1,5

M10083