State:
0 - init,
1 – start move to track beginning,
2 – during move to track beginning
3 – start moving along the track
4 – during moving along the track
5 – start move to track end in case of break
6 – during moving to the track end after break
7 – stop during track segment movement
8 – final stop

TL.TrackNumber = 0 до начала движения и увеличивается на +1 после окончания движения по треку, где трек – это набор сегментов движения между точками с 0-й скоростью
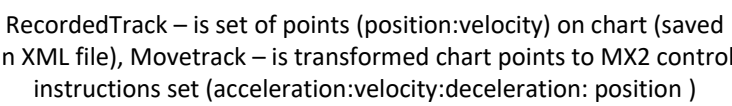
LOOP (Hpt)
If 220V and 24V are OK
State = 0;
TrackNumber = 0;
MX2TrackNumber = 0;

Start button pressed?

if (driveIsMoving)

При выборе трека из списка:

Lv_isSelected

For selected track:
Build char
TrackNumber = 0;
trackComleted = false;

State = 0

if (cm.IsConnected)

MX2TrackNumber = 0;
TL.TrackNumber=>0

End

Switch(State)

State 0
State 1
State 2
State 3
State 4
State 5
State 6
State 8

Init

driveIsMoving = true;

MoveTo TrackBeginning(RecordTrack)

State = 2;

MX2TrackNumber = TL.TrackNumber

if (TrackNumber == MX2TrackNumber)

Yes

driveIsMoving = true;

StartMoving(TrackNumber);

if (MoveTrack.Count > 0)

Yes

Move

State = 4;

INFO: Move along track

No

StopMoving();

State = 7;

driveIsMoving = true;

MoveTo TrackEnd(RecordTrack)

State = 6;

Track is comleted

StopMoving()
driveIsMoving = false;

Yes

Switch(State)

State 0
State 1
State 2
State 3
State 4
State 5
State 6
State 7
State 8

Request tr_1.PositionValue

INFO: ARZ need to be moved to track beginning

State = 3;

Yes

If ARZ in the track beginning?

No

MX2TrackNumber = 0;
Thread.sleep 100 msec;
0=>TL.TrackNumber

State = 1;

INFO: ARZ is ready to move along track: [TrackNumber]

Request tr_1.PositionValue

If ARZ near by current track end point?

No

Yes

TrackNumber = MX2TrackNumber;

if (TrackNumber > MoveTrack.Count - 1)

No

State = 3;

Yes

State = 8;

If OpenRequestWindow ==true?

Yes

No

State = 5;

OpenRequestWindow = True;

TrackNumber =>TL.TrackNumber
Restore tracknumber to avoid the tracknumber incrementation after stop

RequestWindow is hidden?

Yes

Wants to continue track movement? If (continueTrackMove)

Yes

No

State = 8;

If(not trackComleted)

Yes

TrackNumber = 0;
MX2TrackNumber = 0;
Trhead.sleep 100 msec
0 => TL.TrackNumber;

No

trackComleted = true;

Open info window

OpenRequestWindow =false;

To the LOOP beginning

RecordedTrack – is set of points (position:velocity) on chart (saved in XML file), Movetrack – is transformed chart points to MX2 control instructions set (acceleration:velocity:deceleration: position )

TL.TrackNumber (PLC) => MX2TrackNumber => TrackNumber

TrackNumber = 0
MoveTrack[0] – состоит из 3-х сегментов

TrackNumber = 1
MoveTrack[1]

Сегмент трека 1
Сегмент трека 2
Сегмент трека 3
Сегмент трека 4

Скорость
Середина сцены
Начало трека
Точка остановки на треке
Дистанция
Край сцены

Трек 0
Трек 1
Ускорение
Постоянная скорость
Торможение
Сегмент трека 0
Сегмент трека 1