
Okuma America Corporation

THINC-API Release Notes for Lathe

Document No.: S5015-008-18

THINC-API	Version: S5015-008-18
Release Notes For Lathe	Date: 12/04/2012

Revision History

Date	Version	Description	Author
5/21/2007	S5015-008-00	Public release for Lathe THINC-API version 1.0.0.0	LHuynh
6/04/2007	S5015-008-01	Public release for Lathe THINC-API version 1.1.0.0	Lhuynh
08/15/2007	S5015-008-02	Public release for Lathe THINC-API version 1.2.0.0	Lhuynh
2/22/2008	S5015-008-03	Public Release 1.6.0.0 for Lathe THINC-API	Lhuynh
4/11/2008	S5015-008-04	Public Release 1.6.0.0 for Lathe THINC-API	Lhuynh
06/27/2008	S5015-008-05	Public Release 1.6.3.0 for Lathe THINC-API	Lhuynh
07/25/2008	S5015-008-06	Public Release 1.6.4.0 for Lathe THINC-API	Lhuynh
10/27/2008	S5015-008-07	Public Release 1.7.0.0 for Lathe THINC-API	Lhuynh
12/18/2008	S5015-008-08	Public Release 1.8.0.0 for Lathe THINC-API	Lhuynh
04/30/2009	S5015-008-09	Public Release 1.9.1.0 for Lathe THINC-API	Lhuynh
10/12/2009	S5015-008-10	Public Release 1.10.0.0 for Lathe THINC-API	Lhuynh
04/28/2010	S5015-008-11	Public Release 1.11.0.0 for Lathe THINC-API	Lhuynh
09/14/2010	S5015-008-12	Public Release 1.11.1.0 for Lathe THINC-API	Lhuynh
01/04/2011	S5015-008-13	Public Release 1.12.0.0 for Lathe THINC-API	Lhuynh
02/02/2011	S5015-008-14	Public Release 1.12.1.0 for Lathe THINC-API	Lhuynh
11/14/2011	S5015-008-15	Beta Release 1.14.0.0 for Lathe THINC-API	Lhuynh
01/15/2012	S5015-008-16	Beta Release 1.14.1.0 for Lathe THINC-API	Lhuynh
09/21/2012	S5015-008-17	Beta Release 1.14.2.0 for Lathe THINC-API	Lhuynh
12/04/2012	S5015-008-18	Public Release 1.15.0.0 for Lathe THINC-API	Lhuynh

THINC-API	Version: S5015-008-18
Release Notes For Lathe	Date: 12/04/2012

Table of Contents

1.	Introduction	4
1.1	Disclaimer of Warranty	4
1.2	Purpose	4
1.3	Scope	4
1.4	Definitions, Acronyms, and Abbreviations	4
1.5	References	4
2.	About This Release	4
3.	New Features	6
3.1	Data-API	6
3.1.1	MSpindleEnum	6
3.1.2	OptionSpecEnum	6
3.1.3	TurretModeEnum	6
3.2	Command-API	6
3.3	Change	7
3.3.1	<u>NonOperatingConditionEnum</u> Enumeration	7
4.	Known Bugs and Limitations	7
4.1	Defect	7
4.2	General Defect	7
4.2.1	Data-API	7
4.3	Defects Fixed in this Release	8
4.3.1	DATA-API	8
4.3.2	CSpindle	8

THINC-API	Version: S5015-008-18
Release Notes For Lathe	Date: 12/04/2012

Release Notes for Lathe

1. Introduction

1.1 Disclaimer of Warranty

Okuma America Corporation makes no representations or warranties, either expressed or implied, by or with respect to anything in this document, and shall not be liable for any implied warranties of merchantability or fitness for a particular purpose or for any indirect, special or consequential damages.

Copyright © 2012, Okuma America Corporation.
All rights reserved.

GOVERNMENT RIGHTS LEGEND: Use, duplication or disclosure by the U.S. Government is subject to restrictions set forth in the applicable Okuma America Corporation license agreement and as provided in DFARS 227.7202-1(a) and 227.7202-3(a) (1995), DFARS 252.227-7013(c)(1)(ii) (Oct 1988), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14, as applicable.

"Okuma America Corporation" and Okuma America Corporation's products are trademarks of Okuma America Corporation. References to other companies and their products use trademarks owned by the respective companies and are for reference purpose only.

1.2 Purpose

The purpose of the **Release Notes** document is to communicate major new features and changes in this release of the THINC-API for Lathe libraries. It also documents known problems and workarounds.

1.3 Scope

This document describes Public Release 1.15.0.0 of THINC-API for Lathe.

1.4 Definitions, Acronyms, and Abbreviations

GAC – Global Assembly Cache Windows folder located in 'C:\WINDOWS\assembly'

1.5 References

None.

2. About This Release

Public Release 1.15.0.0 of the THINC-API library for Lathe supports the following:

From this release, THINC API libraries will check dependency libraries during installation and at run-time. THINC API will fail to install or load if version of dependency libraries cannot support current version of THINC API.

Version of Okuma.CLDATAPI.dll in Public Release 1.15.0.0 is 2.5.0.0

Version of Okuma.CLCMDAPI.dll in Public Release 1.15.0.0 is 1.9.0.0

Version of APINotifierService.exe in Public Release 1.15.0.0 is 1.15.0.0

Version of Okuma.Flexnet.dll in Public Release 1.15.0.0 is 1.3.0.0

Version of Okuma.Apilog.dll in Public Release 1.15.0.0 is 1.4.0.0

THINC-API	Version: S5015-008-18
Release Notes For Lathe	Date: 12/04/2012

The following functions of Okuma.CLDATAPI.dll library will be only available in OSP-P200 control machines:

Classes	Interfaces
CMachine	OnOffStateEnum GetNCStatus(NCStatusEnum enNCStatus)
CMachine	CCurrentAlarm* GetCurrentAlarm()
CIO	OnOffStateEnum GetUserTaskIOVariable(IOTypeEnum enIO, Int32 intIndex) ;
CIO	void SetUserTaskOutputVariable(Int32 intIndex, OnOffStateEnum enValue) ;
CIO	OnOffStateEnum GetProtectedUserTaskOutputVariable(Int32 intIndex) ;
CIO	void SetProtectedUserTaskOutputVariable(Int32 intIndex, OnOffStateEnum enValue) ;

The following functions of Okuma.CLCMDAPI.dll library will be only available in OSP-P200 control machines:

Classes	Interfaces
CATC	Sub RegisterToolPot(ByVal intPotNo As Integer, ByVal intToolNo As Integer, ByVal enSettingToolKind As SettingToolKindEnum, ByVal enSettingToolSize As SettingToolSizeEnum, ByVal enReturnMagazine As ReturnMagazineEnum)
CATC	Sub SetNextTool(ByVal intToolNo As Integer, ByVal enSettingToolKind As SettingToolKindEnum, ByVal enSettingToolSize As SettingToolSizeEnum, ByVal enReturnMagazine As ReturnMagazineEnum)
CATC	Sub SetToolInStation(ByVal intToolNo As Integer, ByVal enSettingToolKind As SettingToolKindEnum, ByVal enSettingToolSize As SettingToolSizeEnum, ByVal enReturnMagazine As ReturnMagazineEnum, ByVal enTurretStation As TurretStationEnum)
CATC	Sub UnRegisterToolPot(ByVal intPotNo As Integer)
CProgram	CancelMainProgram()
CProgram	SelectMainProgramRSide(ByVal strMainProgramFileName As String, Optional ByVal strSubProgramFileName As String = "", Optional ByVal strSystemSubstituteProgramFileName As String = "", Optional ByVal strProgramName As String = "")
CProgram	SelectMainProgramLSide(ByVal strMainProgramFileName As String, Optional ByVal strSubProgramFileName As String = "", Optional ByVal strSystemSubstituteProgramFileName As String = "", Optional ByVal strProgramName As String = "")
CTools	CalcualteToolOffset(ByVal intToolNo As Integer, ByVal enAxisIndex As OffsetAxisIndexEnum, ByVal enSubSystem As SubSystemEnum, ByVal dblValue As Double)
CTools	AddConstantToolOffset(ByVal intOffsetNo As Integer, ByVal enAxisIndex As OffsetAxisIndexEnum, ByVal enSubSystem As SubSystemEnum, ByVal enCuttingPosition As CuttingPositionEnum)
CTools	AddConstantNoseRadiusCompensation(ByVal intOffsetNo As Integer, ByVal enAxisIndex As OffsetAxisIndex2Enum, ByVal enSubSystem As SubSystemEnum, ByVal enCuttingPosition As CuttingPositionEnum)
CTools	AddConstantToolWear(ByVal intOffsetNo As Integer, ByVal enAxisIndex As OffsetAxisIndex2Enum, ByVal enSubSystem As SubSystemEnum, ByVal enCuttingPosition As CuttingPositionEnum)
CTools	SubtractConstantToolOffset(ByVal intOffsetNo As Integer, ByVal enAxisIndex As OffsetAxisIndexEnum, ByVal enSubSystem As SubSystemEnum, ByVal enCuttingPosition As CuttingPositionEnum)

THINC-API	Version: S5015-008-18
Release Notes For Lathe	Date: 12/04/2012

CTools	SubtractConstantNoseRadiusCompensation(ByVal intOffsetNo As Integer, ByVal enAxisIndex As OffsetAxisIndex2Enum, ByVal enSubSystem As SubSystemEnum, ByVal enCuttingPosition As CuttingPositionEnum)
CTools	SubtractConstantToolWear(ByVal intOffsetNo As Integer, ByVal enAxisIndex As OffsetAxisIndex2Enum, ByVal enSubSystem As SubSystemEnum, ByVal enCuttingPosition As CuttingPositionEnum)
CProgram	SelectScheduleProgramLSide(ByVal strScheduleProgramFileName As String)
CProgram	SelectScheduleProgramRSide(ByVal strScheduleProgramFileName As String)
CMachine	Public Sub SetUserAlarm(ByVal enAlarm As UserAlarmEnum, Optional ByVal strAlarmMessage As String = "", Optional ByVal enUserAlarmSubSystem As UserAlarmSubSystemEnum = 0)
CMachine	Public Sub ClearUserAlarmD(ByVal enUserAlarmSubSystem As UserAlarmSubSystemEnum)

Note: User Alarm will require OKUMA.Lathe.UserAlarm license feature in order to function on OSP-P200 machine if machine can support.

3. New Features

There are new sub systems designed specifically for third Turret or C Turret.
Please refer to the Sub System Enumeration in the Help file for more information.

3.1 Data-API

3.1.1 MSpindleEnum

It can support M_Spindle_C_Turret

3.1.2 OptionSpecEnum

It can support Loader2Carrier

3.1.3 TurretModeEnum

It can support C_Turret

3.2 Command-API

Classes	Interfaces
CMachine	Public Sub SetUserAlarm(ByVal enAlarm As UserAlarmEnum, Optional ByVal strAlarmMessage As String = "", Optional ByVal enUserAlarmSubSystem As UserAlarmSubSystemEnum = 0)
CMachine	Public Sub ClearUserAlarmD(ByVal enUserAlarmSubSystem As UserAlarmSubSystemEnum)

THINC-API	Version: S5015-008-18
Release Notes For Lathe	Date: 12/04/2012

3.3 Change

3.3.1 NonOperatingConditionEnum Enumeration

Member named Standby is changed to PartWaiting for consistency with NC MacMan HMI.

4. Known Bugs and Limitations

This section identifies known problems with Public Release 1.15.0.0 and describes any work-arounds.

4.1 Defect

4.2 General Defect

DATA-API library, Okuma.CLDATAPI.dll, cannot create directly under ASP.NET web application.

Solution/Work-arounds: Create and initialize DATA-API in a separate thread. All function calls must be called from objects created inside separated thread mentioned above.

DATA-API library can only support applications designed with single-threaded apartment of COM threading model. The underlying library, LDATAPI.dll, cannot be loaded during call to CMachine::Init function when an MTAThread attribute is applied to the application.

Solution/Work-arounds: None

4.2.1 Data-API

4.2.1.1 MacMan.COperationHistory class

Function:

```
Int32 COperation* GetOperationHistory(Int32 intIndex) ;
ArrayList* GetOperationHistory(Int32 intFromIndex, Int32 intToIndex);
Int32 GetMaxCount() ;
Int32 GetCount() ;
```

Symptom: Failed to get correct data for Subsystem L and R side if MacMan screen is different than current setting of subsystem. It always gets the data from current MacMan screen.

Solution/Work around: None

4.2.1.2 CAxis class

Function:

```
Double GetActualPositionProgramCoord( AxisIndex1Enum enAxisIndex);
Double GetTargetPosition (AxisIndex1Enum enAxisIndex);
```

Symptom: The Z-axis position for sub system NC-AL and NC-AR does not return data correctly. It is based on the current selection of spindle in NC panel or command program G140/G141.

Solution/Work around: None

4.3 Defects Fixed in this Release

4.3.1 DATA-API

4.3.1.1 CIO Class

Function: Int32 GetWordIO(IOTypeEnum enIO, Int32 intAddressIndex)

Symptom: Function does not represent data correctly even the data has the same result from OSP IO Monitor application. The functions should return positive values only to correctly represent 2 to the power of N bits.

OSP IO Monitor application will return negative values when the actual data is greater than 32767.

For example: if bit 15 of word index 515 is ON then function will return 32768 meanwhile OSP IO Monitor displays -32768. Or if all bits of word index 17 are ON then function will return 65535 meanwhile OSP IO Monitor displays -1.

ID = IW Logical Input					ID = QW Logical Output				
Addr	A	HEX	DEC	Label	Addr	A	HEX	DEC	Label
0009	L	0100	256	w1PULH	0512		02A8	680	
0010		0000	0		0513		0000	0	
0011		0000	0		0514		0000	0	
0012		C000	-16384		0515		8000	-32768	
0013		027F	639		0516		0040	64	
0014		6071	24689		0517		3010	12304	
0015		FC3A	-966		0518		0000	0	
0016		00AE	174		0519		0000	0	
0017		FFFF	-1		0520		0000	0	
0018		0000	0		0521		0004	4	
0019		0000	0		0522		1800	6144	
0020		0000	0		0523		0400	1024	
0021		2000	8192		0524		4000	16384	
0022		00F0	240		0525		8000	-32768	
0023		0000	0		0526		0040	64	
0024	L	0000	0	w1VDIN	0527		0000	0	
0025		0000	0		0528	L	0000	0	w0VDOT
0026		5710	22288		0529		0100	256	

4.3.2 CSpindle

Function: GetCurrentSpindleSelection

Symptom: Return Left spindle only even current spindle selection on machine is right spindle