

InduSoft CNF Files

Description and Standard Syntax of the
 Configuration Files Created by STUDIO

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I. Introduction

This document describes the format of the text files created by STUDIO when configuring an application. The screen files (*.SCR or *.SCC), compiled maths (*.MAC) and any other binary file (*.BIN) are not text files, therefore are not described in this document.

⚠ Caution: The format of any file described in this document can be modified in upgraded versions of STUDIO without any formal warning from the software manufacturer.

II. Database Files (<ApplicationPath>\Database)

II.1. TAGL.TXT - Application Tags Database

▪ Standard Syntax for each tag

```
// X.Y - Application Tags
#T1 | T2 | T3 | T4 | T5 | T6 | T7 |
#Parameters
<[P1 . P2]> | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 |
#Alarm
<[A1 . A2]> | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 | A17 |
#History
<[H1.H2]> | H3 | H4 | H5 | H6 |
```

▪ Tag Properties:

- T1 = Position of the tag in the Tags Datasheet View (line number)
- T2 = Tag Name
- T3 = Tag Size
- T4 = Tag Type (0=Boolean; 1=Integer; 2=Real; 3=String; 4..n=Class)
- T5 = Class Name
- T6 = Description
- T7 = Web Data type (0=Local; 1=Server)

▪ Parameters:

- P1 = Constant Value (value = 0)
- P2 = Class Member Name (only for Class Tag)
- P3 = Version of the syntax for the Parameters (current value = 1)
- P4 = Retentive Value (1=Enabled; 0=Disabled)
- P5 = Retentive Parameters (1=Enabled; 0=Disabled)
- P6 = Dead Band (1=Enabled; 0=Disabled)
- P7 = Smoothing (1=Enabled; 0=Disabled)
- P8 = Dead Band Value
- P9 = Min. Value
- P10 = Max. Value
- P11 = Unit
- P12 = Startup Value

▪ Alarm Properties:

- A1 = Array Index
- A2 = Class Member Name (only for Class Tag)
- A3 = Version of the syntax for the Alarm Properties (current value = 2)
- A4 = Translation (1=Enabled; 0=Disabled)
- A5 = Constant Value (value=1)
- A6 = Dead Band Value
- A7 = Deviation Dead Band
- A8 = Deviation Set Point
- A9 = Remote Ack Tag
- A10 = Amount of Alarm Messages
- A11 = Alarm Type (1=HiHi; 2=Hi/On; 4=Lo/Off; 8=LoLo; 16=Rate/Changed; 32=Deviation+; 64=Deviation-)
- A12 = Rate Unit (0=1/sec; 1=1/min; 2=1/hor)

A13 = Group Number
A14 = Priority
A15 = Message
A16 = Selection
A17 = Limit

▪ **History Properties:**

H1 = Array Index
H2 = Class Member Name (only for Class Tag)
H3 = Version of the syntax for the History Properties (current value = 1)
H4 = Constant Value (value=1)
H5 = Group Number
H6 = Log Dead Band

 **Notes:**

- The first line of the *Application Tags Database* file must begin with the chars //. The text besides these chars can be any comment. Usually, this text is X.Y - Application Tags, where X.Y is the product version.
- The parameters **A11** ... **A17** must be repeated in the same line for each alarm type configured for the same tag.
- The text **.P2** , **.A2** and **.H2** must be omitted for single tags (non-class tags)

III. Tasks Configuration Files (I<ApplicationPath>\Config)

III.I. ALARM???.ALR - Alarm Worksheet

- **Standard Syntax**

```
H1  
alarm  
H2 | H3  
H4  
SH5  
RH6  
RH7  
RH8  
RH9  
RH10  
RH11  
TH12  
TH13  
TH14  
TH15  
RH16  
RH17  
RH18  
FH19  
FH20  
FH21  
FH22  
FH23  
FH24  
B1GB2 RB3 FB4 SB5 IB6 SB7  
GB8 RB9 FB10 SB11 IB12 SB13
```

- **Worksheet Header**

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Number of lines configured in the body of the *Alarm* worksheet
H5 = Text configured in the *Group Name* field
H6 = *Beep* checkbox (0=Unchecked; 1=Checked)
H7 = *Save To Disk* checkbox (0=Unchecked; 1=Checked)
H8 = *Summary* checkbox (0=Unchecked; 1=Checked)
H9 = *To Printer* checkbox (0=Unchecked; 1=Checked)
H10 = *Generate Ack Messages* checkbox (0=Unchecked; 1=Checked)
H11 = *Generate Norm Messages* checkbox (0=Unchecked; 1=Checked)
H12 = Tag configured in the *Total Active* field
H13 = Tag configured in the *Total Active or Unack* field
H14 = Tag configured in the *Disable* field
H15 = Tag configured in the *Remote Ack* field
H16 = *Ack* checkbox (0=Unchecked; 1=Checked)

H17 = *Enable* checkbox for custom colors (0=Checked; 1=Unchecked)
H18 = *Enable* checkbox for custom colors (0=Unchecked; 1=Checked)
H19 = Foreground color for message in the *Start* status
H20 = Background color for message in the *Start* status
H21 = Foreground color for message in the *Ack* status
H22 = Background color for message in the *Ack* status
H23 = Foreground color for message in the *Norm* status
H24 = Background color for message in the *Norm* status

▪ **Worksheet Body**

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Type* configured in the line 1 (0=High; 1=Hi; 2=Lo; 3=Lolo; 4=Rate; 5=Dev+; 6=Dev-)
B4 = *Limit* configured in the line 1
B5 = *Message* configured in the line 1
B6 = *Priority* configured in the line 1
B7 = *Selection* configured in the line 1
B8 = *Tag Name* configured in the line 2
B9 = *Type* configured in the line 2 (0=HiHi; 1=Hi; 2=Lo; 3=LoLo; 4=Rate; 5=Dev+; 6=Dev-)
B10 = *Limit* configured in the line 2
B11 = *Message* configured in the line 2
B12 = *Priority* configured in the line 2
B13 = *Selection* configured in the line 2

 **Notes:**

- The TAB char must be used between the *Tag Name* (for example: **B2**), the *Type* (for example: **B3**), the *Limit* (for example: **B4**), the *Message* (for example: **B5**), the *Priority* (for example: **B6**) and the *Selection* (for example: **B7**).
- The syntax **G****B8** **R****B9** **F****B10** **S****B11** **I****B12** **S****B13** is used for each line configured in the body of the *Alarm* worksheet.

III.2. TREND???.TRD - Trend Worksheet

Standard Syntax

```
H1  
trend  
H2 | H3  
H4  
RH5  
RH6  
TH7  
IH8  
TH9  
RH10  
RH11  
SH12  
B1GB2 FB3  
GB4 FB5
```

Worksheet Header

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Number of lines configured in the body of the *Trend* worksheet
H5 = *Save On Trigger* checkbox (0=Unchecked; 1=Checked)
H6 = *Save on Tag Change* checkbox (0=Unchecked; 1=Checked)
H7 = Tag configured in the *Disable* field
H8 = Value configured in the *File Life Time (days)* field
H9 = Tag configured in the *Save On Trigger* field
H10 = *Date (Default)* checkbox (0=Unchecked; 1=Checked)
H11 = *Batch* checkbox (0=Unchecked; 1=Checked)
H12 = Text configured in the *Batch* field

Worksheet Body

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Dead Band* configured in the line 1
B4 = *Tag Name* configured in the line 2
B5 = *Dead Band* configured in the line 2

Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**) and the *Dead Band* (for example: **B3**).
- The syntax **GB4 FB5** is used for each line configured in the body of the *Trend* worksheet.

III.3. <RecipeName>.RCP - Recipe Worksheet

▪ Standard Syntax

```
H1
*
H2 | H3
H4
S H5
R
T H6
R H7
B1 T B2 I B3
T B4 I B5
```

▪ Worksheet Header

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Number of lines configured in the body of the *Recipe* worksheet
H5 = Text configured in the *File Name* field
H6 = Text configured in the *Register Number* field
H7 = *Save As XML* checkbox (0=Unchecked; 1=Checked)

▪ Worksheet Body

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Number of Elements* configured in the line 1
B4 = *Tag Name* configured in the line 2
B5 = *Number of Elements* configured in the line 2

Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**) and the *Number of Elements* (for example: **B3**).
- The syntax **T B4 I B5** is used for each line configured in the body of the *Recipe* worksheet.

III.4. <ReportName>.REP - Report Worksheet

- **Standard Syntax**

H1
*
H2 | H3
H4
RH5
SH6
RH7
B1

- **Worksheet Header**

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Constant Value (value=0)
H5 = *Disk Append* checkbox (0=Unchecked; 1=Checked)
H6 = Text configured in the *Output File* field
H7 = *Unicode* checkbox (0=Unchecked; 1=Checked)

- **Worksheet Body**

B1 = Constant character (ASCII code = 12)

 **Notes:**

- The text typed in the body of the *Report* worksheet (text format) is saved in another file with extension TXT (for example: Report1.TXT).
- The text typed in the *Report Writer* (RTF format) is saved in another file with extension RTF (for example: Report1.RTF).

III.5. ODBC???.DBC - ODBC Worksheet

▪ Standard Syntax

```
H1
ODBC
H2 | H3
H4
SH5
SH6
SH7
SH8
TH9
TH10
TH11
TH12
TH13
SH14
TH15
TH16
B1TB2 SB3
TB4 SB5
```

▪ Worksheet Header

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Number of lines configured in the body of the *ODBC* worksheet
H5 = Text configured in the *Data Source* field
H6 = Text configured in the *User* field
H7 = Text configured in the *Password* field
H8 = Text configured in the *Table* field
H9 = Tag configured in the *Select* field
H10 = Tag configured in the *Next* field
H11 = Tag configured in the *Insert* field
H12 = Tag configured in the *Update Trigger* field
H13 = Tag configured in the *Delete* field
H14 = Text configured in the *Condition* field
H15 = Tag configured in the *Status* field
H16 = Tag configured in the *Transaction* field

▪ Worksheet Body

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Column* configured in the line 1
B4 = *Tag Name* configured in the line 2
B5 = *Column* configured in the line 2

🔗 Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**) and the *Column* (for example: **B3**).
- The syntax **TB4 SB5** is used for each line configured in the body of the *ODBC* worksheet.

III.6. MATH???.MAT - Math Worksheet

▪ Standard Syntax

```
H1  
math  
H2 | H3  
H4  
EH5  
B1TB2 EB3  
TB4 EB5
```

▪ Worksheet Header

- H1** = Text configured in the *Description* field
- H2** = Version of the file syntax (current value = 0)
- H3** = Access Level for the Security System
- H4** = Number of lines configured in the body of the *Math* worksheet
- H5** = Value configured in the *Execution* field

▪ Worksheet Body

- B1** = Constant character (ASCII code = 12)
- B2** = *Tag Name* configured in the line 1
- B3** = *Expression* configured in the line 1
- B4** = *Tag Name* configured in the line 2
- B5** = *Expression* configured in the line 2

Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**) and the *Expression* (for example: **B3**).
- The syntax **TB4 EB5** is used for each line configured in the body of the *Math* worksheet.

III.7. SCHED???.SCH - Scheduler Worksheet

Standard Syntax

```
H1
sched
H2 | H3
H4
B1R B2 T B3   M B4   D B5   T B6   e B7   e B8
R B9   T B10  M B11  D B12  T B13  e B14  e B15
```

Worksheet Header

- H1** = Text configured in the *Description* field
- H2** = Version of the file syntax (current value = 0)
- H3** = Access Level for the Security System
- H4** = Number of lines configured in the body of the *Scheduler* worksheet

Worksheet Body

- B1** = Constant character (ASCII code = 12)
- B2** = *Event* configured in the line 1 (0=Calendar; 1=Clock; 2=Change)
- B3** = *Trigger* configured in the line 1
- B4** = *Time* configured in the line 1 (HH:MM:SS)
- B5** = *Date* configured in the line 1 (MM:DD:YYYY)
- B6** = *Tag* configured in the line 1
- B7** = *Expression* configured in the line 1
- B8** = *Disable* configured in the line 1
- B9** = *Event* configured in the line 2 (0=Calendar; 1=Clock; 2=Change)
- B10** = *Trigger* configured in the line 2
- B11** = *Time* configured in the line 2 (HH:MM:SS)
- B12** = *Date* configured in the line 2 (MM:DD:YYYY)
- B13** = *Tag* configured in the line 2
- B14** = *Expression* configured in the line 2
- B15** = *Disable* configured in the line 2

Notes:

- The TAB char must be used between the *Event* (for example: **B2**), the *Trigger* (for example: **B3**), the *Time* (for example: **B4**), the *Date* (for example: **B5**), the *Tag* (for example: **B6**), the *Expression* (for example: **B7**) and the *Disable* (for example: **B8**).
- The syntax **R B9 T B10 M B11 D B12 T B13 e B14 e B15** is used for each line configured in the body of the *Scheduler* worksheet.

III.8. <DriverName>???.DRV – Standard Driver Worksheet

▪ Standard Syntax

```
H1
H2
H3 | H4
H5
TH6
VH7
TH8
TH9
TH10
VH11
TH12
TH13
SH14
SH15
IH16
IH17
FH18
FH19
B1TB2 BB3 FB4 FB5
TB6 BB7 FB8 FB9
```

▪ Worksheet Header

H1 = Text configured in the *Description* field
H2 = Driver Name (for example: ABKE)
H3 = Version of the file syntax (current value = 0)
H4 = Access Level for the Security System
H5 = Number of lines configured in the body of the *Standard Driver* worksheet
H6 = Tag configured in the *Read Trigger* field
H7 = Value configured in the *Enable Read When Idle* field
H8 = Tag configured in the *Read Completed* field
H9 = Tag configured in the *Read Status* field
H10 = Tag configured in the *Write Trigger* field
H11 = Value configured in the *Write on Tag Change* field
H12 = Value configured in the *Write Completed* field
H13 = Tag configured in the *Write Status* field
H14 = Text configured in the *Station* field
H15 = Text configured in the *Header* field
H16 = *Increase priority* checkbox (0=Unchecked; 1=Checked)
H17 = *Min/Max* checkbox (0=Unchecked; 1=Checked)
H18 = Value configured in the *Min* field
H19 = Value configured in the *Max* field

▪ Worksheet Body

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Address* configured in the line 1
B4 = *Div/Min* configured in the line 1
B5 = *Add/Max* configured in the line 1

B6 = *Tag Name* configured in the line 1
B7 = *Address* configured in the line 1
B8 = *Div/Min* configured in the line 1
B9 = *Add/Max* configured in the line 1

 **Notes:**

- The TAB char must be used between the *Tag Name* (for example: **B2**), the *Address* (for example: **B3**), the *Div/Min* (for example: **B4**) and the *Add/Max* (for example: **B5**).
- The syntax **TB6** **B7** **FB8** **FB9** is used for each line configured in the body of the *Standard Driver* worksheet.

III.9. OPCCL???.OPC - OPC Client Worksheet

Standard Syntax

H1
OpcCl
H2 | H3
H4
SH5
VH6
VH7
VH8
TH9
SH10
B1TB2 SB3 RB4
TB5 SB6 RB7

Worksheet Header

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Number of lines configured in the body of the *Recipe* worksheet
H5 = Server Identifier Name
H6 = Tag name configured in the *Disable* field
H7 = Value configured in the *Update Rate (ms)* field
H8 = Value configured in the *Percent Deadband* field
H9 = Tag configured in the *Status* field
H10 = Text configured in the *Remote Server Name* field

Worksheet Body

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Item* configured in the line 1
B4 = *Scan* selected in the line 1 (0=Always; 1=Screen)
B5 = *Tag Name* configured in the line 2
B6 = *Item* configured in the line 2
B7 = *Scan* selected in the line 2 (0=Always; 1=Screen)

Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**), the *Item* (for example: **B3**) and the *Scan* (for example: **B4**).
- The syntax **TB5 SB6 RB7** is used for each line configured in the body of the *OPC Client* worksheet.

III.10. TCPCL???.TCP - TCP/IP Client Worksheet

▪ Standard Syntax

```
H1
TCPCL
H2 | H3
H4
TH5
SH6
B1TB2 SB3
TB4 SB5
```

▪ Worksheet Header

- H1** = Text configured in the *Description* field
- H2** = Version of the file syntax (current value = 0)
- H3** = Access Level for the Security System
- H4** = Number of lines configured in the body of the *TCP/IP Client* worksheet
- H5** = Tag configured in the *Connection Status* field
- H6** = Value configured in the *Server IP Address* field

▪ Worksheet Body

- B1** = Constant character (ASCII code = 12)
- B2** = *Tag Name* configured in the line 1
- B3** = *Remote Tag* configured in the line 1
- B4** = *Tag Name* configured in the line 2
- B5** = *Remote Tag* configured in the line 2

🔗 Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**) and the *Remote Tag* (for example: **B3**).
- The syntax **TB4 SB5** is used for each line configured in the body of the *TCP/IP Client* worksheet.

III.11. DDECL???.DCL – DDE Client Worksheet

▪ Standard Syntax

```
H1  
DdeCl  
H2 | H3  
H4  
SH5  
SH6  
TH7  
TH8  
TH9  
TH10  
TH11  
VH12  
VH13  
B1TB2 SB3  
TB4 SB5
```

▪ Worksheet Header

H1 = Text configured in the *Description* field
H2 = Version of the file syntax (current value = 0)
H3 = Access Level for the Security System
H4 = Number of lines configured in the body of the *DDE Client* worksheet
H5 = Text configured in the *Application Name* field
H6 = Text configured in the *Topic* field
H7 = Tag configured in the *Connect* field
H8 = Tag configured in the *Read Trigger* field
H9 = Tag configured in the *Read Status* field
H10 = Tag configured in the *Write Trigger* field
H11 = Tag configured in the *Write Status* field
H12 = Value configured in the *Enable Read When Idle* field
H13 = Value configured in the *Write on Tag Change* field

▪ Worksheet Body

B1 = Constant character (ASCII code = 12)
B2 = *Tag Name* configured in the line 1
B3 = *Item* configured in the line 1
B4 = *Tag Name* configured in the line 2
B5 = *Item* configured in the line 2

✎ Notes:

- The TAB char must be used between the *Tag Name* (for example: **B2**) and the *Item* (for example: **B3**).
- The syntax **B4 SB5** is used for each line configured in the body of the *DDE Client* worksheet.

IV. Map of Revisions

Revision	Author	Date	Comments
A	Fabio Terezinho	Feb/15/2000	Initial revision
B	Fabio Terezinho	Feb/16/2000	<ul style="list-style-type: none"> ▪ Included Index ▪ Included Recipe Configuration Files ▪ Included OPC Configuration Files
C	Fabio Terezinho	Jun/15/2000	Included TCPClient Configuration Files
D	Fabio Terezinho	Dec/14/2000	Included parameter T7 for TAGL.TXT file, for Studio v4.1
E	Fabio Terezinho	Jan/05/2001	<ul style="list-style-type: none"> ▪ Included B4 and B7 (Scan Type) for OPCCL???.OPC worksheet ▪ Included H7 (XML Format) for <RecipeName>.RCP worksheet
F	Fabio Terezinho	Mar/25/2002	<ul style="list-style-type: none"> ▪ Overall layout revision ▪ Included <i>ALARM???.ALR - Alarm Worksheet</i> ▪ <i>Included TREND???.TRD - Trend Worksheet</i> ▪ <i>Included <ReportName>.REP - Report Worksheet</i> ▪ <i>Included ODBC???.DBC - ODBC Worksheet</i> ▪ <i>Included MATH???.MAT - Math Worksheet</i> ▪ <i>Included SCHED???.SCH - Scheduler Worksheet</i> ▪ <i>Included <DriverName>???.DRV – Standard Driver Worksheet</i> ▪ <i>Included DDECL???.DCL – DDE Client Worksheet</i>
G	Fabio Terezinho	Aug/19/2003	Included Proprietary Notice
H	Fabio Terezinho	Oct/3/2003	Layout revision