# InflowWind

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3.1.1 Detailed Description		
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3.1.2 Member Data Documentation		
3.1.2.1 LOGICAL CTWind::CT_Backgr::CoherentStr		
Definition at line 425 of file tempassembled.f90.		

# 3.1.2.2 CHARACTER(1024) CTWind::CT\_Backgr::WindFile

Definition at line 423 of file tempassembled.f90.

# 3.1.2.3 INTEGER CTWind::CT\_Backgr::WindFileType

Definition at line 424 of file tempassembled.f90.

The documentation for this type was generated from the following file:

· tempassembled.f90

# 3.2 CTWind Module Reference

#### **Data Types**

- type CT\_Backgr
- type CTWindFiles

#### **Public Member Functions**

- subroutine, public CT\_Init (UnWind, WindFile, BackGrndValues, ErrStat, ErrMsg)
- subroutine, public CT SetRefVal (Height, HWidth, ErrStat, ErrMsg)
- REAL(ReKi) function, public CT\_GetWindSpeed (Time, InputPosition, ErrStat, -ErrMsg)
- subroutine, public CT\_Terminate (ErrStat, ErrMsg)

# **Private Member Functions**

- subroutine ReadCTData (UnWind, CTFileNo, Itime, ErrStat, ErrMsg)
- subroutine LoadCTData (UnWind, FileName, ITime, IComp, Vel, ErrStat, ErrMsg)
- subroutine ReadCTP (UnWind, FileName, CTPscaling, ErrStat, ErrMsg)
- subroutine ReadCTTS (UnWind, FileName, CT\_SC\_ext, EmptyFileStat, ErrStat, ErrMsg)
- subroutine ReadCTScales (UnWind, FileName, ErrStat, ErrMsg)

# **Private Attributes**

- INTEGER, parameter NumComps = 3
- REAL(ReKi) DelYCTgrid
- REAL(ReKi) DelZCTgrid
- REAL(ReKi) CTDistSc
- REAL(ReKi) CTOffset

- REAL(ReKi) CTScale
- REAL(ReKi), allocatable CTvelU
- REAL(ReKi), allocatable CTvelV
- REAL(ReKi), allocatable CTvelW
- REAL(ReKi) CTLy
- REAL(ReKi) CTLz
- REAL(ReKi) CTScaleVel
- REAL(ReKi), allocatable Tdata
- REAL(ReKi) CT Zref
- REAL(ReKi) CTYHWid
- REAL(ReKi) CTYmax
- REAL(ReKi) CTYt
- REAL(ReKi) CTZmax
- REAL(ReKi) InvMCTWS
- INTEGER CT\_DF\_Y
- INTEGER CT DF Z
- INTEGER CTvel files
- INTEGER IndCT\_hi
- INTEGER IndCT lo
- INTEGER NumCTt
- INTEGER NumCTy
- INTEGER NumCTyD
- INTEGER NumCTyD1
- INTEGER NumCTz
- INTEGER NumCTzD
- INTEGER NumCTzD1
- INTEGER, save TimeIndx = 0
- INTEGER, allocatable TimeStpCT
- INTEGER CTWindUnit
- LOGICAL CTVertShft
- CHARACTER(3) CText
- CHARACTER(1024) CTSpath

# 3.2.1 Detailed Description

Definition at line 339 of file tempassembled.f90.

- 3.2.2 Member Function/Subroutine Documentation
- 3.2.2.1 REAL(ReKi) function, public CTWind::CT\_GetWindSpeed ( REAL(DbKi), intent(in) Time, REAL(ReKi), dimension(3), intent(in) InputPosition, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 679 of file tempassembled.f90.

3.2.2.2 subroutine, public CTWind::CT\_Init ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *WindFile*, TYPE(CT\_Backgr), intent(out) *BackGrndValues*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* )

Definition at line 436 of file tempassembled.f90.

3.2.2.3 subroutine, public CTWind::CT\_SetRefVal ( REAL(ReKi), intent(in) *Height*, REAL(ReKi), intent(in), optional *HWidth*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* )

Definition at line 624 of file tempassembled.f90.

3.2.2.4 subroutine, public CTWind::CT\_Terminate ( INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 1602 of file tempassembled.f90.

3.2.2.5 subroutine CTWind::LoadCTData ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *FileName*, INTEGER, intent(in) *ITime*, INTEGER, intent(in) *IComp*, REAL(ReKi), dimension (numctyd,numctzd,2), intent(inout) *Vel*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* ) [private]

Definition at line 1048 of file tempassembled.f90.

3.2.2.6 subroutine CTWind::ReadCTData (INTEGER, intent(in) UnWind, INTEGER, intent(in) CTFileNo, INTEGER, intent(in) Itime, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg ) [private]

Definition at line 970 of file tempassembled.f90.

3.2.2.7 subroutine CTWind::ReadCTP ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *FileName*, TYPE(CTWindFiles), intent(out) *CTPscaling*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* ) [private]

Definition at line 1139 of file tempassembled.f90.

3.2.2.8 subroutine CTWind::ReadCTScales (INTEGER, intent(in) UnWind, CHARACTER(\*), intent(in) FileName, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

[private]

Definition at line 1505 of file tempassembled.f90.

3.2.2.9 subroutine CTWind::ReadCTTS (INTEGER, intent(in) UnWind, CHARACTER(\*), intent(in) FileName, CHARACTER(3), intent(out) CT\_SC\_ext, LOGICAL, intent(out) EmptyFileStat, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg)

[private]

Definition at line 1291 of file tempassembled.f90.

```
3.2.3 Member Data Documentation
```

**3.2.3.1 INTEGER CTWind::CT\_DF\_Y** [private]

Definition at line 390 of file tempassembled.f90.

**3.2.3.2 INTEGER CTWind::CT\_DF\_Z** [private]

Definition at line 391 of file tempassembled.f90.

3.2.3.3 REAL(ReKi) CTWind::CT\_Zref [private]

Definition at line 383 of file tempassembled.f90.

3.2.3.4 REAL(ReKi) CTWind::CTDistSc [private]

Definition at line 370 of file tempassembled.f90.

3.2.3.5 CHARACTER(3) CTWind::CText [private]

Definition at line 411 of file tempassembled.f90.

**3.2.3.6 REAL(ReKi) CTWind::CTLy** [private]

Definition at line 378 of file tempassembled.f90.

**3.2.3.7 REAL(ReKi) CTWind::CTLz** [private]

Definition at line 379 of file tempassembled.f90.

**3.2.3.8 REAL(ReKi) CTWind::CTOffset** [private]

Definition at line 371 of file tempassembled.f90.

3.2.3.9 REAL(ReKi) CTWind::CTScale [private]

Definition at line 372 of file tempassembled.f90.

**3.2.3.10 REAL(ReKi) CTWind::CTScaleVel** [private]

Definition at line 380 of file tempassembled.f90.

**3.2.3.11 CHARACTER(1024) CTWind::CTSpath** [private]

Definition at line 412 of file tempassembled.f90.

**3.2.3.12 INTEGER CTWind::CTvel\_files** [private]

Definition at line 392 of file tempassembled.f90.

```
3.2.3.13 REAL(ReKi), allocatable CTWind::CTvelU [private]
Definition at line 375 of file tempassembled.f90.
3.2.3.14 REAL(ReKi), allocatable CTWind::CTvelV [private]
Definition at line 376 of file tempassembled.f90.
3.2.3.15 REAL(ReKi), allocatable CTWind::CTvelW [private]
Definition at line 377 of file tempassembled.f90.
3.2.3.16 LOGICAL CTWind::CTVertShft [private]
Definition at line 409 of file tempassembled.f90.
3.2.3.17 INTEGER CTWind::CTWindUnit [private]
Definition at line 407 of file tempassembled.f90.
3.2.3.18 REAL(ReKi) CTWind::CTYHWid [private]
Definition at line 384 of file tempassembled.f90.
3.2.3.19 REAL(ReKi) CTWind::CTYmax [private]
Definition at line 385 of file tempassembled.f90.
3.2.3.20 REAL(ReKi) CTWind::CTYt [private]
Definition at line 386 of file tempassembled.f90.
3.2.3.21 REAL(ReKi) CTWind::CTZmax [private]
Definition at line 387 of file tempassembled.f90.
3.2.3.22 REAL(ReKi) CTWind::DelYCTgrid [private]
Definition at line 368 of file tempassembled.f90.
3.2.3.23 REAL(ReKi) CTWind::DelZCTgrid [private]
Definition at line 369 of file tempassembled.f90.
```

Definition at line 394 of file tempassembled.f90.

**3.2.3.24 INTEGER CTWind::IndCT\_hi** [private]

```
3.2.3.25 INTEGER CTWind::IndCT_lo [private]
Definition at line 395 of file tempassembled.f90.
3.2.3.26 REAL(ReKi) CTWind::InvMCTWS [private]
Definition at line 388 of file tempassembled.f90.
3.2.3.27 INTEGER, parameter CTWind::NumComps = 3 [private]
Definition at line 365 of file tempassembled.f90.
3.2.3.28 INTEGER CTWind::NumCTt [private]
Definition at line 397 of file tempassembled.f90.
3.2.3.29 INTEGER CTWind::NumCTy [private]
Definition at line 398 of file tempassembled.f90.
3.2.3.30 INTEGER CTWind::NumCTyD [private]
Definition at line 399 of file tempassembled.f90.
3.2.3.31 INTEGER CTWind::NumCTyD1 [private]
Definition at line 400 of file tempassembled.f90.
3.2.3.32 INTEGER CTWind::NumCTz [private]
Definition at line 401 of file tempassembled.f90.
3.2.3.33 INTEGER CTWind::NumCTzD [private]
Definition at line 402 of file tempassembled.f90.
3.2.3.34 INTEGER CTWind::NumCTzD1 [private]
Definition at line 403 of file tempassembled.f90.
3.2.3.35 REAL(ReKi), allocatable CTWind::Tdata [private]
Definition at line 381 of file tempassembled.f90.
3.2.3.36 INTEGER, save CTWind::TimeIndx = 0 [private]
```

Definition at line 404 of file tempassembled.f90.

**3.2.3.37 INTEGER**, allocatable CTWind::TimeStpCT [private]

Definition at line 405 of file tempassembled.f90.

The documentation for this module was generated from the following file:

· tempassembled.f90

# 3.3 CTWind::CTWindFiles Type Reference

#### **Private Attributes**

- CHARACTER(1024) CTTSfile
- CHARACTER(1024) CTbackgr

# 3.3.1 Detailed Description

Definition at line 415 of file tempassembled.f90.

3.3.2 Member Data Documentation

3.3.2.1 CHARACTER(1024) CTWind::CTWindFiles::CTbackgr [private]

Definition at line 417 of file tempassembled.f90.

3.3.2.2 CHARACTER(1024) CTWind::CTWindFiles::CTTSfile [private]

Definition at line 416 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

#### 3.4 FDWind Module Reference

**Public Member Functions** 

- subroutine, public FD Init (UnWind, WindFile, RefHt, ErrStat)
- REAL(ReKi) function, public FD\_GetValue (RVarName, ErrStat)
- REAL(ReKi) function, public FD\_GetWindSpeed (Time, InputPosition, ErrStat)
- subroutine, public FD\_Terminate (ErrStat)

#### **Private Member Functions**

- subroutine ReadFDP (UnWind, FileName, FDTSfile, ErrStat)
- subroutine Read4Dtimes (UnWind, FileName, ErrStat)
- subroutine ReadAll4DData (UnWind, ErrStat)
- subroutine LoadLESData (UnWind, FileNo, Indx, ErrStat)
- subroutine Read4DData (UnWind, FileName, Comp, Indx4, Scale, Offset, Err-Stat)
- subroutine Load4DData (InpIndx)

# **Private Attributes**

- REAL(ReKi) DelXgrid
- REAL(ReKi) DelYgrid
- REAL(ReKi) DelZgrid
- REAL(ReKi) FDper
- REAL(ReKi) FDTime
- REAL(ReKi), allocatable FDu
- REAL(ReKi), allocatable FDv
- REAL(ReKi), allocatable FDw
- REAL(ReKi), allocatable FDuData
- REAL(ReKi), allocatable FDvData
- REAL(ReKi), allocatable FDwData
- REAL(ReKi) Lx
- REAL(ReKi) Ly
- REAL(ReKi) Lz
- REAL(ReKi) Offsets
- REAL(ReKi), save PrevTime
- REAL(ReKi) RotDiam
- REAL(ReKi) ScalFact
- REAL(ReKi) ScaleVel
- REAL(ReKi), allocatable Times4D
- REAL(ReKi) Tm max
- REAL(ReKi) TScIFact
- REAL(ReKi) T 4D En
- REAL(ReKi) T 4D St
- REAL(ReKi) Xmax
- REAL(ReKi) Xt
- REAL(ReKi) Ymax
- REAL(ReKi) Yt
- REAL(ReKi) Zmax
- REAL(ReKi) Zt
- REAL(ReKi) Zref

- INTEGER FD DF X
- INTEGER FD DF Y
- INTEGER FD\_DF\_Z
- INTEGER FDFileNo
- INTEGER FDRecL
- INTEGER Ind4DAdv
- INTEGER Ind4Dnew
- INTEGER Ind4Dold
- INTEGER Num4Dt
- INTEGER, parameter Num4DtD = 2
- INTEGER Num4Dx
- INTEGER Num4DxD
- INTEGER Num4DxD1
- INTEGER Num4Dy
- INTEGER Num4DyD
- INTEGER Num4DyD1
- INTEGER Num4Dz
- INTEGER Num4DzD
- INTEGER Num4DzD1
- INTEGER NumAdvect
- INTEGER Shft4Dnew
- INTEGER, allocatable Times4DIx
- INTEGER FDUnit
- LOGICAL Advect
- LOGICAL VertShft
- LOGICAL, save Initialized = .FALSE.
- CHARACTER(5), allocatable AdvFiles
- CHARACTER(1024) FDSpath

#### 3.4.1 Detailed Description

Definition at line 1660 of file tempassembled.f90.

- 3.4.2 Member Function/Subroutine Documentation
- 3.4.2.1 REAL(ReKi) function, public FDWind::FD\_GetValue ( CHARACTER(\*), intent(in) RVarName, INTEGER, intent(out) ErrStat )

Definition at line 2520 of file tempassembled.f90.

3.4.2.2 REAL(ReKi) function, public FDWind::FD\_GetWindSpeed ( REAL(DbKi), intent(in) Time, REAL(ReKi), dimension(3), intent(in) InputPosition, INTEGER, intent(out) ErrStat )

Definition at line 2566 of file tempassembled.f90.

3.4.2.3 subroutine, public FDWind::FD\_Init ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *WindFile*, REAL(ReKi), intent(in) *RefHt*, INTEGER, intent(out) *ErrStat* )

Definition at line 1753 of file tempassembled.f90.

3.4.2.4 subroutine, public FDWind::FD\_Terminate ( INTEGER, intent(out) ErrStat )

Definition at line 2909 of file tempassembled.f90.

3.4.2.5 subroutine FDWind::Load4DData (INTEGER, intent(in) Inplndx ) [private]

Definition at line 2493 of file tempassembled.f90.

3.4.2.6 subroutine FDWind::LoadLESData (INTEGER, intent(in) *UnWind*, INTEGER, intent(in) *FileNo*, INTEGER, intent(in) *Indx*, INTEGER, intent(out) *ErrStat* )

[private]

Definition at line 2371 of file tempassembled.f90.

3.4.2.7 subroutine FDWind::Read4DData (INTEGER, intent(in) UnWind, CHARACTER(\*), intent(in) FileName, REAL(ReKi), dimension (:,:,:,:), intent(inout) Comp, INTEGER, intent(in) Indx4, REAL(ReKi), intent(in) Scale, REAL(ReKi), intent(in) Offset, INTEGER, intent(out) ErrStat) [private]

Definition at line 2408 of file tempassembled.f90.

3.4.2.8 subroutine FDWind::Read4Dtimes (INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *FileName*, INTEGER, intent(out) *ErrStat* ) [private]

Definition at line 2257 of file tempassembled.f90.

3.4.2.9 subroutine FDWind::ReadAll4DData (INTEGER, intent(in) *UnWind*, INTEGER, intent(out) *ErrStat* ) [private]

Definition at line 2336 of file tempassembled.f90.

3.4.2.10 subroutine FDWind::ReadFDP ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *FileName*, CHARACTER(\*), intent(out) *FDTSfile*, INTEGER, intent(out) *ErrStat*) [private]

Definition at line 1996 of file tempassembled.f90.

```
3.4.3 Member Data Documentation
3.4.3.1 LOGICAL FDWind::Advect [private]
Definition at line 1736 of file tempassembled.f90.
3.4.3.2 CHARACTER(5), allocatable FDWind::AdvFiles [private]
Definition at line 1741 of file tempassembled.f90.
3.4.3.3 REAL(ReKi) FDWind::DelXgrid [private]
Definition at line 1679 of file tempassembled.f90.
3.4.3.4 REAL(ReKi) FDWind::DelYgrid [private]
Definition at line 1680 of file tempassembled.f90.
3.4.3.5 REAL(ReKi) FDWind::DelZgrid [private]
Definition at line 1681 of file tempassembled.f90.
3.4.3.6 INTEGER FDWind::FD_DF_X [private]
Definition at line 1711 of file tempassembled.f90.
3.4.3.7 INTEGER FDWind::FD_DF_Y [private]
Definition at line 1712 of file tempassembled.f90.
3.4.3.8 INTEGER FDWind::FD DF Z [private]
Definition at line 1713 of file tempassembled.f90.
3.4.3.9 INTEGER FDWind::FDFileNo [private]
Definition at line 1714 of file tempassembled.f90.
3.4.3.10 REAL(ReKi) FDWind::FDper [private]
Definition at line 1682 of file tempassembled.f90.
3.4.3.11 INTEGER FDWind::FDRecL [private]
Definition at line 1715 of file tempassembled.f90.
3.4.3.12 CHARACTER(1024) FDWind::FDSpath [private]
```

Definition at line 1742 of file tempassembled.f90.

```
3.4.3.13 REAL(ReKi) FDWind::FDTime [private]
Definition at line 1683 of file tempassembled.f90.
3.4.3.14 REAL(ReKi), allocatable FDWind::FDu [private]
Definition at line 1684 of file tempassembled.f90.
3.4.3.15 REAL(ReKi), allocatable FDWind::FDuData [private]
Definition at line 1687 of file tempassembled.f90.
3.4.3.16 INTEGER FDWind::FDUnit [private]
Definition at line 1734 of file tempassembled.f90.
3.4.3.17 REAL(ReKi), allocatable FDWind::FDv [private]
Definition at line 1685 of file tempassembled.f90.
3.4.3.18 REAL(ReKi), allocatable FDWind::FDvData [private]
Definition at line 1688 of file tempassembled.f90.
3.4.3.19 REAL(ReKi), allocatable FDWind::FDw [private]
Definition at line 1686 of file tempassembled.f90.
3.4.3.20 REAL(ReKi), allocatable FDWind::FDwData [private]
Definition at line 1689 of file tempassembled.f90.
3.4.3.21 INTEGER FDWind::Ind4DAdv [private]
Definition at line 1716 of file tempassembled.f90.
3.4.3.22 INTEGER FDWind::Ind4Dnew [private]
Definition at line 1717 of file tempassembled.f90.
3.4.3.23 INTEGER FDWind::Ind4Dold [private]
Definition at line 1718 of file tempassembled.f90.
3.4.3.24 LOGICAL, save FDWind::Initialized = .FALSE. [private]
```

Definition at line 1739 of file tempassembled.f90.

```
3.4.3.25 REAL(ReKi) FDWind::Lx [private]
Definition at line 1690 of file tempassembled.f90.
3.4.3.26 REAL(ReKi) FDWind::Ly [private]
Definition at line 1691 of file tempassembled.f90.
3.4.3.27 REAL(ReKi) FDWind::Lz [private]
Definition at line 1692 of file tempassembled.f90.
3.4.3.28 INTEGER FDWind::Num4Dt [private]
Definition at line 1719 of file tempassembled.f90.
3.4.3.29 INTEGER, parameter FDWind::Num4DtD = 2 [private]
Definition at line 1720 of file tempassembled.f90.
3.4.3.30 INTEGER FDWind::Num4Dx [private]
Definition at line 1721 of file tempassembled.f90.
3.4.3.31 INTEGER FDWind::Num4DxD [private]
Definition at line 1722 of file tempassembled.f90.
3.4.3.32 INTEGER FDWind::Num4DxD1 [private]
Definition at line 1723 of file tempassembled.f90.
3.4.3.33 INTEGER FDWind::Num4Dy [private]
Definition at line 1724 of file tempassembled.f90.
3.4.3.34 INTEGER FDWind::Num4DyD [private]
Definition at line 1725 of file tempassembled.f90.
3.4.3.35 INTEGER FDWind::Num4DyD1 [private]
Definition at line 1726 of file tempassembled.f90.
3.4.3.36 INTEGER FDWind::Num4Dz [private]
```

Definition at line 1727 of file tempassembled.f90.

```
3.4.3.37 INTEGER FDWind::Num4DzD [private]
Definition at line 1728 of file tempassembled.f90.
3.4.3.38 INTEGER FDWind::Num4DzD1 [private]
Definition at line 1729 of file tempassembled.f90.
3.4.3.39 INTEGER FDWind::NumAdvect [private]
Definition at line 1730 of file tempassembled.f90.
3.4.3.40 REAL(ReKi) FDWind::Offsets [private]
Definition at line 1693 of file tempassembled.f90.
3.4.3.41 REAL(ReKi), save FDWind::PrevTime [private]
Definition at line 1694 of file tempassembled.f90.
3.4.3.42 REAL(ReKi) FDWind::RotDiam [private]
Definition at line 1695 of file tempassembled.f90.
3.4.3.43 REAL(ReKi) FDWind::ScaleVel [private]
Definition at line 1697 of file tempassembled.f90.
3.4.3.44 REAL(ReKi) FDWind::ScalFact [private]
Definition at line 1696 of file tempassembled.f90.
3.4.3.45 INTEGER FDWind::Shft4Dnew [private]
Definition at line 1731 of file tempassembled.f90.
3.4.3.46 REAL(ReKi) FDWind::T_4D_En [private]
Definition at line 1701 of file tempassembled.f90.
3.4.3.47 REAL(ReKi) FDWind::T_4D_St [private]
Definition at line 1702 of file tempassembled.f90.
3.4.3.48 REAL(ReKi), allocatable FDWind::Times4D [private]
```

Definition at line 1698 of file tempassembled.f90.

```
3.4.3.49 INTEGER, allocatable FDWind::Times4Dlx [private]
Definition at line 1732 of file tempassembled.f90.
3.4.3.50 REAL(ReKi) FDWind::Tm_max [private]
Definition at line 1699 of file tempassembled.f90.
3.4.3.51 REAL(ReKi) FDWind::TSclFact [private]
Definition at line 1700 of file tempassembled.f90.
3.4.3.52 LOGICAL FDWind::VertShft [private]
Definition at line 1737 of file tempassembled.f90.
3.4.3.53 REAL(ReKi) FDWind::Xmax [private]
Definition at line 1703 of file tempassembled.f90.
3.4.3.54 REAL(ReKi) FDWind::Xt [private]
Definition at line 1704 of file tempassembled.f90.
3.4.3.55 REAL(ReKi) FDWind::Ymax [private]
Definition at line 1705 of file tempassembled.f90.
3.4.3.56 REAL(ReKi) FDWind::Yt [private]
Definition at line 1706 of file tempassembled.f90.
3.4.3.57 REAL(ReKi) FDWind::Zmax [private]
Definition at line 1707 of file tempassembled.f90.
3.4.3.58 REAL(ReKi) FDWind::Zref [private]
Definition at line 1709 of file tempassembled.f90.
3.4.3.59 REAL(ReKi) FDWind::Zt [private]
Definition at line 1708 of file tempassembled.f90.
The documentation for this module was generated from the following file:
```

• tempassembled.f90

# 3.5 FFWind::FF\_GetValue Interface Reference

**Private Member Functions** 

REAL(ReKi) function FF GetRValue (RVarName, ErrStat, ErrMsg)

#### 3.5.1 Detailed Description

Definition at line 2985 of file tempassembled.f90.

#### 3.5.2 Member Function/Subroutine Documentation

3.5.2.1 REAL(ReKi) function FFWind::FF\_GetValue::FF\_GetRValue ( CHARACTER(\*), intent(in) RVarName, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

[private]

Definition at line 4631 of file tempassembled.f90.

The documentation for this interface was generated from the following file:

· tempassembled.f90

# 3.6 FFWind Module Reference

**Data Types** 

interface FF\_GetValue

**Public Member Functions** 

- subroutine, public FF\_Init (UnWind, BinFile, ErrStat, ErrMsg)
- REAL(ReKi) function, public FF\_GetWindSpeed (Time, InputPosition, ErrStat, -ErrMsg)
- subroutine, public FF\_Terminate (ErrStat, ErrMsg)

### **Private Member Functions**

- subroutine Read\_Bladed\_FF\_Header0 (UnWind, ErrStat, ErrMsg)
- subroutine Read Bladed FF Header1 (UnWind, TI, ErrStat, ErrMsg)
- subroutine Read\_Bladed\_Grids (UnWind, CWise, TI, ErrStat, ErrMsg)
- subroutine Read\_Summary\_FF (UnWind, FileName, CWise, ZCenter, TI, ErrStat, ErrMsq)

- subroutine Read TurbSim FF (UnWind, WindFile, ErrStat, ErrMsg)
- subroutine Read\_FF\_Tower (UnWind, WindFile, ErrStat, ErrMsg)
- REAL(ReKi) function FF\_GetRValue (RVarName, ErrStat, ErrMsg)
- REAL(ReKi) function FF\_Interp (Time, Position, ErrStat, ErrMsg)

#### **Private Attributes**

- REAL(ReKi), allocatable FFData
- REAL(ReKi), allocatable FFtower
- REAL(ReKi) FFDTime
- REAL(ReKi) FFRate
- REAL(ReKi) FFYHWid
- REAL(ReKi) FFZHWid
- REAL(ReKi) RefHt
- REAL(ReKi) GridBase
- REAL(ReKi) InitXPosition
- REAL(ReKi) InvFFYD
- REAL(ReKi) InvFFZD
- REAL(ReKi) InvMFFWS
- REAL(ReKi) MeanFFWS
- REAL(ReKi) TotalTime
- INTEGER NFFComp
- INTEGER NFFSteps
- INTEGER NYGrids
- INTEGER NZGrids
- INTEGER NTGrids
- LOGICAL, save Initialized = .FALSE.
- LOGICAL Periodic = .FALSE.

### 3.6.1 Detailed Description

Definition at line 2935 of file tempassembled.f90.

- 3.6.2 Member Function/Subroutine Documentation
- 3.6.2.1 REAL(ReKi) function FFWind::FF\_GetRValue ( CHARACTER(\*), intent(in) RVarName, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg ) [private]

Definition at line 4631 of file tempassembled.f90.

3.6.2.2 REAL(ReKi) function, public FFWind::FF\_GetWindSpeed ( REAL(DbKi), intent(in) *Time*, REAL(ReKi), dimension(3), intent(in) *InputPosition*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsq* )

Definition at line 4687 of file tempassembled.f90.

3.6.2.3 subroutine, public FFWind::FF\_Init ( INTEGER, intent(in) *UnWind,* CHARACTER(\*), intent(in) *BinFile,* INTEGER, intent(out) *ErrStat,* CHARACTER(\*), intent(out) *ErrMsg* )

Definition at line 2997 of file tempassembled.f90.

3.6.2.4 REAL(ReKi) function FFWind::FF\_Interp ( REAL(DbKi), intent(in) *Time*, REAL(ReKi), dimension(3), intent(in) *Position*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* ) [private]

Definition at line 4751 of file tempassembled.f90.

3.6.2.5 subroutine, public FFWind::FF\_Terminate ( INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 5053 of file tempassembled.f90.

3.6.2.6 subroutine FFWind::Read\_Bladed\_FF\_Header0 ( INTEGER, intent(in) UnWind, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg ) [private]

Definition at line 3186 of file tempassembled.f90.

3.6.2.7 subroutine FFWind::Read\_Bladed\_FF\_Header1 (INTEGER, intent(in) *UnWind*, REAL(ReKi), dimension(3), intent(out) *TI*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* ) [private]

Definition at line 3338 of file tempassembled.f90.

3.6.2.8 subroutine FFWind::Read\_Bladed\_Grids ( INTEGER, intent(in) *UnWind*, LOGICAL, intent(in) *CWise*, REAL(ReKi), dimension (3), intent(in) *TI*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg*) [private]

Definition at line 3707 of file tempassembled.f90.

3.6.2.9 subroutine FFWind::Read\_FF\_Tower ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *WindFile*, INTEGER, intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* ) [private]

Definition at line 4415 of file tempassembled.f90.

3.6.2.10 subroutine FFWind::Read\_Summary\_FF (INTEGER, intent(in) UnWind, CHARACTER(\*), intent(in) FileName, LOGICAL, intent(out) CWise, REAL(ReKi), intent(out) ZCenter, REAL(ReKi), dimension (3), intent(out) TI, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg) [private]

Definition at line 3850 of file tempassembled.f90.

3.6.2.11 subroutine FFWind::Read\_TurbSim\_FF ( INTEGER, intent(in) *UnWind,*CHARACTER(\*), intent(in) *WindFile,* INTEGER, intent(out) *ErrStat,* CHARACTER(\*),
intent(out) *ErrMsg* ) [private]

Definition at line 4087 of file tempassembled.f90.

3.6.3 Member Data Documentation

**3.6.3.1 REAL(ReKi)**, allocatable **FFWind::FFData** [private]

Definition at line 2958 of file tempassembled.f90.

3.6.3.2 REAL(ReKi) FFWind::FFDTime [private]

Definition at line 2961 of file tempassembled.f90.

3.6.3.3 REAL(ReKi) FFWind::FFRate [private]

Definition at line 2962 of file tempassembled.f90.

**3.6.3.4 REAL(ReKi), allocatable FFWind::FFtower** [private]

Definition at line 2959 of file tempassembled.f90.

3.6.3.5 REAL(ReKi) FFWind::FFYHWid [private]

Definition at line 2963 of file tempassembled.f90.

3.6.3.6 REAL(ReKi) FFWind::FFZHWid [private]

Definition at line 2964 of file tempassembled.f90.

3.6.3.7 REAL(ReKi) FFWind::GridBase [private]

Definition at line 2966 of file tempassembled.f90.

3.6.3.8 LOGICAL, save FFWind::Initialized = .FALSE. [private]

Definition at line 2981 of file tempassembled.f90.

```
3.6.3.9 REAL(ReKi) FFWind::InitXPosition [private]
Definition at line 2967 of file tempassembled.f90.
3.6.3.10 REAL(ReKi) FFWind::InvFFYD [private]
Definition at line 2968 of file tempassembled.f90.
3.6.3.11 REAL(ReKi) FFWind::InvFFZD [private]
Definition at line 2969 of file tempassembled.f90.
3.6.3.12 REAL(ReKi) FFWind::InvMFFWS [private]
Definition at line 2970 of file tempassembled.f90.
3.6.3.13 REAL(ReKi) FFWind::MeanFFWS [private]
Definition at line 2971 of file tempassembled.f90.
3.6.3.14 INTEGER FFWind::NFFComp [private]
Definition at line 2974 of file tempassembled.f90.
3.6.3.15 INTEGER FFWind::NFFSteps [private]
Definition at line 2975 of file tempassembled.f90.
3.6.3.16 INTEGER FFWind::NTGrids [private]
Definition at line 2978 of file tempassembled.f90.
3.6.3.17 INTEGER FFWind::NYGrids [private]
Definition at line 2976 of file tempassembled.f90.
3.6.3.18 INTEGER FFWind::NZGrids [private]
Definition at line 2977 of file tempassembled.f90.
3.6.3.19 LOGICAL FFWind::Periodic = .FALSE. [private]
Definition at line 2982 of file tempassembled.f90.
3.6.3.20 REAL(ReKi) FFWind::RefHt [private]
```

Definition at line 2965 of file tempassembled.f90.

**3.6.3.21 REAL(ReKi) FFWind::TotalTime** [private]

Definition at line 2972 of file tempassembled.f90.

The documentation for this module was generated from the following file:

· tempassembled.f90

# 3.7 HAWCWind Module Reference

#### **Public Member Functions**

- subroutine, public HW\_Init (UnWind, InpFileName, ErrStat)
- REAL(ReKi) function, public HW GetValue (RVarName, ErrStat)
- REAL(ReKi) function, public HW GetWindSpeed (Time, InputPosition, ErrStat)
- subroutine, public HW\_Terminate (ErrStat)

#### **Private Member Functions**

• REAL(ReKi) function HW\_LinearInterp (Time, Position, ErrStat)

#### **Private Attributes**

- REAL(ReKi), allocatable WindData
- REAL(ReKi) deltaXInv
- REAL(ReKi) deltaYInv
- REAL(ReKi) deltaZInv
- INTEGER, parameter NC = 3
- INTEGER NX
- INTEGER NY
- INTEGER NZ
- REAL(ReKi) GridBase
- REAL(ReKi) LengthX
- REAL(ReKi) LengthYHalf
- REAL(ReKi) RefHt
- REAL(ReKi) URef
- LOGICAL, save Initialized = .FALSE.

# 3.7.1 Detailed Description

Definition at line 5073 of file tempassembled.f90.

- 3.7.2 Member Function/Subroutine Documentation
- 3.7.2.1 REAL(ReKi) function, public HAWCWind::HW\_GetValue ( CHARACTER(\*), intent(in) RVarName, INTEGER, intent(out) ErrStat )

Definition at line 5443 of file tempassembled.f90.

3.7.2.2 REAL(ReKi) function, public HAWCWind::HW\_GetWindSpeed ( REAL(DbKi), intent(in) *Time,* REAL(ReKi), dimension(3), intent(in) *InputPosition,* INTEGER, intent(out) *ErrStat* )

Definition at line 5498 of file tempassembled.f90.

3.7.2.3 subroutine, public HAWCWind::HW\_Init ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *InpFileName*, INTEGER, intent(out) *ErrStat* )

Definition at line 5122 of file tempassembled.f90.

3.7.2.4 REAL(ReKi) function HAWCWind::HW\_LinearInterp ( REAL(DbKi), intent(in) *Time,* REAL(ReKi), dimension(3), intent(in) *Position,* INTEGER, intent(out) *ErrStat* )

[private]

Definition at line 5534 of file tempassembled.f90.

3.7.2.5 subroutine, public HAWCWind::HW\_Terminate ( INTEGER, intent(out) ErrStat )

Definition at line 5739 of file tempassembled.f90.

- 3.7.3 Member Data Documentation
- 3.7.3.1 REAL(ReKi) HAWCWind::deltaXInv [private]

Definition at line 5096 of file tempassembled.f90.

3.7.3.2 REAL(ReKi) HAWCWind::deltaYInv [private]

Definition at line 5097 of file tempassembled.f90.

**3.7.3.3 REAL(ReKi) HAWCWind::deltaZInv** [private]

Definition at line 5098 of file tempassembled.f90.

3.7.3.4 REAL(ReKi) HAWCWind::GridBase [private]

Definition at line 5105 of file tempassembled.f90.

Definition at line 5112 of file tempassembled.f90.

3.7.3.6 REAL(ReKi) HAWCWind::LengthX [private]

Definition at line 5106 of file tempassembled.f90.

3.7.3.7 REAL(ReKi) HAWCWind::LengthYHalf [private]

Definition at line 5107 of file tempassembled.f90.

3.7.3.8 INTEGER, parameter HAWCWind::NC = 3 [private]

Definition at line 5100 of file tempassembled.f90.

3.7.3.9 INTEGER HAWCWind::NX [private]

Definition at line 5101 of file tempassembled.f90.

3.7.3.10 INTEGER HAWCWind::NY [private]

Definition at line 5102 of file tempassembled.f90.

3.7.3.11 INTEGER HAWCWind::NZ [private]

Definition at line 5103 of file tempassembled.f90.

Definition at line 5108 of file tempassembled.f90.

**3.7.3.13 REAL(ReKi) HAWCWind::URef** [private]

3.7.3.12 REAL(ReKi) HAWCWind::RefHt [private]

Definition at line 5109 of file tempassembled.f90.

**3.7.3.14 REAL(ReKi)**, allocatable **HAWCWind::WindData** [private]

Definition at line 5094 of file tempassembled.f90.

The documentation for this module was generated from the following file:

• tempassembled.f90

# 3.8 HHWind::HH\_Info Type Reference

# **Public Attributes**

- REAL(ReKi) ReferenceHeight
- REAL(ReKi) Width

#### 3.8.1 Detailed Description

Definition at line 5806 of file tempassembled.f90.

# 3.8.2 Member Data Documentation

# 3.8.2.1 REAL(ReKi) HHWind::HH\_Info::ReferenceHeight

Definition at line 5807 of file tempassembled.f90.

```
3.8.2.2 REAL(ReKi) HHWind::HH_Info::Width
```

Definition at line 5808 of file tempassembled.f90.

The documentation for this type was generated from the following file:

· tempassembled.f90

# 3.9 HHWind Module Reference

# **Data Types**

• type HH Info

# **Public Member Functions**

- subroutine, public HH\_Init (UnWind, WindFile, WindInfo, ErrStat)
- REAL(ReKi) function, public HH\_GetWindSpeed (Time, InputPosition, ErrStat, -ErrMsg)
- subroutine, public HH\_SetLinearizeDels (Perturbations, ErrStat, ErrMsg)
- subroutine, public HH\_Terminate (ErrStat)

# **Private Attributes**

- REAL(ReKi), allocatable Tdata
- REAL(ReKi), allocatable DELTA
- REAL(ReKi), allocatable V

- REAL(ReKi), allocatable VZ
- REAL(ReKi), allocatable HSHR
- REAL(ReKi), allocatable VSHR
- REAL(ReKi), allocatable VLINSHR
- REAL(ReKi), allocatable VGUST
- REAL(ReKi) LinearizeDels
- REAL(ReKi) RefHt
- REAL(ReKi) RefWid
- INTEGER NumDataLines
- INTEGER, save TimeIndx = 0
- LOGICAL, save Linearize = .FALSE.

#### 3.9.1 Detailed Description

Definition at line 5756 of file tempassembled.f90.

- 3.9.2 Member Function/Subroutine Documentation
- 3.9.2.1 REAL(ReKi) function, public HHWind::HH\_GetWindSpeed ( REAL(DbKi), intent(in) Time, REAL(ReKi), dimension(3), intent(in) InputPosition, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 6086 of file tempassembled.f90.

3.9.2.2 subroutine, public HHWind::HH\_Init ( INTEGER, intent(in) *UnWind*, CHARACTER(\*), intent(in) *WindFile*, TYPE(HH\_Info), intent(in) *WindInfo*, INTEGER, intent(out) *ErrStat* )

Definition at line 5819 of file tempassembled.f90.

3.9.2.3 subroutine, public HHWind::HH\_SetLinearizeDels ( REAL(ReKi), dimension(7), intent(in) *Perturbations,* INTEGER, intent(out) *ErrStat,* CHARACTER(\*), intent(out) *ErrMsg* )

Definition at line 6311 of file tempassembled.f90.

3.9.2.4 subroutine, public HHWind::HH\_Terminate ( INTEGER, intent(out) ErrStat )

Definition at line 6338 of file tempassembled.f90.

- 3.9.3 Member Data Documentation
- **3.9.3.1 REAL(ReKi)**, allocatable HHWind::DELTA [private]

Definition at line 5789 of file tempassembled.f90.

```
3.9.3.2 REAL(ReKi), allocatable HHWind::HSHR [private]
Definition at line 5792 of file tempassembled.f90.
3.9.3.3 LOGICAL, save HHWind::Linearize = .FALSE. [private]
Definition at line 5804 of file tempassembled.f90.
3.9.3.4 REAL(ReKi) HHWind::LinearizeDels [private]
Definition at line 5797 of file tempassembled.f90.
3.9.3.5 INTEGER HHWind::NumDataLines [private]
Definition at line 5801 of file tempassembled.f90.
3.9.3.6 REAL(ReKi) HHWind::RefHt [private]
Definition at line 5798 of file tempassembled.f90.
3.9.3.7 REAL(ReKi) HHWind::RefWid [private]
Definition at line 5799 of file tempassembled.f90.
3.9.3.8 REAL(ReKi), allocatable HHWind::Tdata [private]
Definition at line 5788 of file tempassembled.f90.
3.9.3.9 INTEGER, save HHWind::TimeIndx = 0 [private]
Definition at line 5802 of file tempassembled.f90.
3.9.3.10 REAL(ReKi), allocatable HHWind::V [private]
Definition at line 5790 of file tempassembled.f90.
3.9.3.11 REAL(ReKi), allocatable HHWind::VGUST [private]
Definition at line 5795 of file tempassembled.f90.
3.9.3.12 REAL(ReKi), allocatable HHWind::VLINSHR [private]
Definition at line 5794 of file tempassembled.f90.
3.9.3.13 REAL(ReKi), allocatable HHWind::VSHR [private]
```

Definition at line 5793 of file tempassembled.f90.

3.9.3.14 REAL(ReKi), allocatable HHWind::VZ [private]

Definition at line 5791 of file tempassembled.f90.

The documentation for this module was generated from the following file:

• tempassembled.f90

# 3.10 SharedInflowDefs::IfW\_ConstraintStateType Type Reference

**Public Attributes** 

• REAL(ReKi) DummyConstrState

# 3.10.1 Detailed Description

Definition at line 68 of file tempassembled.f90.

3.10.2 Member Data Documentation

# 3.10.2.1 REAL(ReKi) SharedInflowDefs::IfW\_ConstraintStateType::DummyConstr-State

Definition at line 70 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

# 3.11 SharedInflowDefs::IfW\_ContinuousStateType Type Reference

**Public Attributes** 

• REAL(ReKi) DummyContState

# 3.11.1 Detailed Description

Definition at line 54 of file tempassembled.f90.

3.11.2 Member Data Documentation

3.11.2.1 REAL(ReKi) SharedInflowDefs::IfW\_ContinuousStateType::DummyCont-State

Definition at line 56 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

# 3.12 SharedInflowDefs::IfW\_DiscreteStateType Type Reference

**Public Attributes** 

• REAL(ReKi) DummyDiscState

# 3.12.1 Detailed Description

Definition at line 62 of file tempassembled.f90.

3.12.2 Member Data Documentation

3.12.2.1 REAL(ReKi) SharedInflowDefs::IfW\_DiscreteStateType::DummyDiscState

Definition at line 64 of file tempassembled.f90.

The documentation for this type was generated from the following file:

· tempassembled.f90

# 3.13 Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags Type Reference

**Public Attributes** 

- LOGICAL WindFileType = .FALSE.
- LOGICAL Height = .FALSE.
- LOGICAL Width = .FALSE.
- LOGICAL XRange = .FALSE.
- LOGICAL YRange = .FALSE.
- LOGICAL ZRange = .FALSE.
- LOGICAL TRange = .FALSE.
- LOGICAL XRes = .FALSE.
- LOGICAL YRes = .FALSE.
- LOGICAL ZRes = .FALSE.

- LOGICAL TRes = .FALSE.
- LOGICAL ParaPrint = .FALSE.
- LOGICAL Summary = .FALSE.
- LOGICAL fft = .FALSE.
- LOGICAL PointsFile = .FALSE.

#### 3.13.1 Detailed Description

Definition at line 7822 of file tempassembled.f90.

#### 3.13.2 Member Data Documentation

3.13.2.1 LOGICAL Ifw Driver Types::IfW Driver ArgFlags::fft = .FALSE.

Definition at line 7836 of file tempassembled.f90.

3.13.2.2 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::Height = .FALSE.

Definition at line 7824 of file tempassembled.f90.

3.13.2.3 LOGICAL Ifw Driver Types::IfW Driver ArgFlags::ParaPrint = .FALSE.

Definition at line 7834 of file tempassembled.f90.

3.13.2.4 LOGICAL Ifw Driver Types::IfW Driver ArgFlags::PointsFile = .FALSE.

Definition at line 7837 of file tempassembled.f90.

3.13.2.5 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::Summary = .FALSE.

Definition at line 7835 of file tempassembled.f90.

3.13.2.6 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::TRange = .FALSE.

Definition at line 7829 of file tempassembled.f90.

3.13.2.7 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::TRes = .FALSE.

Definition at line 7833 of file tempassembled.f90.

3.13.2.8 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::Width = .FALSE.

Definition at line 7825 of file tempassembled.f90.

3.13.2.9 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::WindFileType = .FALSE.

Definition at line 7823 of file tempassembled.f90.

3.13.2.10 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::XRange = .FALSE.

Definition at line 7826 of file tempassembled.f90.

3.13.2.11 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::XRes = .FALSE.

Definition at line 7830 of file tempassembled.f90.

3.13.2.12 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::YRange = .FALSE.

Definition at line 7827 of file tempassembled.f90.

3.13.2.13 LOGICAL Ifw Driver Types::IfW Driver ArgFlags::YRes = .FALSE.

Definition at line 7831 of file tempassembled.f90.

3.13.2.14 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::ZRange = .FALSE.

Definition at line 7828 of file tempassembled.f90.

3.13.2.15 LOGICAL Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags::ZRes = .FALSE.

Definition at line 7832 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

# 3.14 Ifw\_Driver\_Types::IfW\_Driver\_Args Type Reference

#### **Public Attributes**

- INTEGER WindFileType = DEFAULT\_WIND
- REAL(ReKi) Height
- REAL(ReKi) Width
- REAL(ReKi) XRange
- REAL(ReKi) YRange
- REAL(ReKi) ZRange
- REAL(DbKi) TRange
- REAL(ReKi) XRes
- REAL(ReKi) YRes
- REAL(ReKi) ZRes

- REAL(DbKi) TRes
- REAL(ReKi), dimension(1:3) fft
- CHARACTER(1024) PointsFile
- CHARACTER(1024) InputFile

## 3.14.1 Detailed Description

Definition at line 7842 of file tempassembled.f90.

- 3.14.2 Member Data Documentation
- 3.14.2.1 REAL( ReKi ), dimension(1:3) Ifw\_Driver\_Types::IfW\_Driver\_Args::fft

Definition at line 7854 of file tempassembled.f90.

3.14.2.2 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::Height

Definition at line 7844 of file tempassembled.f90.

3.14.2.3 CHARACTER(1024) Ifw\_Driver\_Types::IfW\_Driver\_Args::InputFile

Definition at line 7856 of file tempassembled.f90.

3.14.2.4 CHARACTER(1024) Ifw Driver Types::IfW Driver Args::PointsFile

Definition at line 7855 of file tempassembled.f90.

3.14.2.5 REAL(DbKi) Ifw Driver Types::IfW Driver Args::TRange

Definition at line 7849 of file tempassembled.f90.

3.14.2.6 REAL( DbKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::TRes

Definition at line 7853 of file tempassembled.f90.

3.14.2.7 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::Width

Definition at line 7845 of file tempassembled.f90.

3.14.2.8 INTEGER Ifw\_Driver\_Types::IfW\_Driver\_Args::WindFileType = DEFAULT\_WIND

Definition at line 7843 of file tempassembled.f90.

3.14.2.9 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::XRange

Definition at line 7846 of file tempassembled.f90.

3.14.2.10 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::XRes

Definition at line 7850 of file tempassembled.f90.

3.14.2.11 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::YRange

Definition at line 7847 of file tempassembled.f90.

3.14.2.12 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::YRes

Definition at line 7851 of file tempassembled.f90.

3.14.2.13 REAL(ReKi) Ifw Driver\_Types::IfW\_Driver\_Args::ZRange

Definition at line 7848 of file tempassembled.f90.

3.14.2.14 REAL( ReKi ) Ifw\_Driver\_Types::IfW\_Driver\_Args::ZRes

Definition at line 7852 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

## 3.15 Ifw Driver Subs Module Reference

**Public Member Functions** 

- subroutine DispHelpText (ErrStat, ErrMsg)
- subroutine RetrieveArgs (Settings, SettingsFlags, ErrStat, ErrMsg)
- subroutine AllRAry5 (Ary, AryDim1, AryDim2, AryDim3, AryDim4, AryDim5, -Descr, ErrStat, ErrMsg)

# 3.15.1 Detailed Description

Definition at line 7883 of file tempassembled.f90.

#### 3.15.2 Member Function/Subroutine Documentation

3.15.2.1 subroutine Ifw\_Driver\_Subs::AIIRAry5 ( REAL(ReKi), dimension (:,:,:,:,:), allocatable Ary, INTEGER, intent(in) AryDim1, INTEGER, intent(in) AryDim2, INTEGER, intent(in) AryDim3, INTEGER, intent(in) AryDim4, INTEGER, intent(in) AryDim5, CHARACTER(\*), intent(in) Descr, INTEGER, intent(out), optional ErrStat, CHARACTER(\*), intent(out), optional ErrMsg)

Definition at line 8513 of file tempassembled.f90.

3.15.2.2 subroutine Ifw\_Driver\_Subs::DispHelpText ( INTEGER(IntKi), intent(out) ErrStat, CHARACTER(1024), intent(out) ErrMsg )

Definition at line 7892 of file tempassembled.f90.

3.15.2.3 subroutine Ifw\_Driver\_Subs::RetrieveArgs ( TYPE( IfW\_Driver\_Args ), intent(out) Settings, TYPE( IfW\_Driver\_ArgFlags ), intent(out) SettingsFlags, INTEGER(IntKi), intent(out) ErrStat, CHARACTER(1024), intent(out) ErrMsg )

Definition at line 7946 of file tempassembled.f90.

Here is the call graph for this function:



The documentation for this module was generated from the following file:

- tempassembled.f90
- 3.16 Ifw\_Driver\_Types Module Reference

**Data Types** 

- · type IfW Driver ArgFlags
- type IfW Driver Args

# 3.16.1 Detailed Description

Definition at line 7814 of file tempassembled.f90.

The documentation for this module was generated from the following file:

• tempassembled.f90

## 3.17 SharedInflowDefs::IfW\_InitInputType Type Reference

#### **Public Attributes**

- CHARACTER(1024) WindFileName
- INTEGER WindFileType
- REAL(ReKi) ReferenceHeight
- · REAL(ReKi) Width

# 3.17.1 Detailed Description

Definition at line 40 of file tempassembled.f90.

- 3.17.2 Member Data Documentation
- 3.17.2.1 REAL(ReKi) SharedInflowDefs::IfW\_InitInputType::ReferenceHeight

Definition at line 47 of file tempassembled.f90.

 $3.17.2.2 \quad REAL (ReKi) \ Shared Inflow Defs:: If W\_InitInput Type:: Width$ 

Definition at line 48 of file tempassembled.f90.

3.17.2.3 CHARACTER(1024) SharedInflowDefs::IfW\_InitInputType::WindFileName

Definition at line 44 of file tempassembled.f90.

3.17.2.4 INTEGER SharedInflowDefs::IfW\_InitInputType::WindFileType

Definition at line 45 of file tempassembled.f90.

The documentation for this type was generated from the following file:

- tempassembled.f90
- 3.18 SharedInflowDefs::IfW\_InputType Type Reference

# **Public Attributes**

· Real(ReKi), allocatable Position

## 3.18.1 Detailed Description

Definition at line 109 of file tempassembled.f90.

#### 3.18.2 Member Data Documentation

## 3.18.2.1 Real(ReKi), allocatable SharedInflowDefs::IfW\_InputType::Position

Definition at line 113 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

# 3.19 SharedInflowDefs::IfW\_OtherStateType Type Reference

**Public Attributes** 

• INTEGER(IntKi) DummyOtherState

## 3.19.1 Detailed Description

Definition at line 74 of file tempassembled.f90.

3.19.2 Member Data Documentation

# 3.19.2.1 INTEGER(IntKi) SharedInflowDefs::IfW\_OtherStateType::DummyOtherState

Definition at line 77 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

# 3.20 SharedInflowDefs::IfW\_OutputType Type Reference

**Public Attributes** 

• REAL(ReKi), allocatable Velocity

# 3.20.1 Detailed Description

Definition at line 119 of file tempassembled.f90.

3.20.2 Member Data Documentation

3.20.2.1 REAL(ReKi), allocatable SharedInflowDefs::IfW OutputType::Velocity

Definition at line 123 of file tempassembled.f90.

The documentation for this type was generated from the following file:

• tempassembled.f90

# 3.21 SharedInflowDefs::IfW\_ParameterType Type Reference

#### **Public Attributes**

- CHARACTER(1024) WindFileName
- CHARACTER(1024) WindFileNameRoot
- CHARACTER(3) WindFileNameExt
- INTEGER WindFileType = 0
- REAL(ReKi) ReferenceHeight
- REAL(ReKi) Width
- REAL(ReKi) HalfWidth
- LOGICAL CT Flag = .FALSE.
- LOGICAL Initialized = .FALSE.

## 3.21.1 Detailed Description

Definition at line 83 of file tempassembled.f90.

- 3.21.2 Member Data Documentation
- 3.21.2.1 LOGICAL SharedInflowDefs::IfW\_ParameterType::CT\_Flag = .FALSE.

Definition at line 100 of file tempassembled.f90.

3.21.2.2 REAL(ReKi) SharedInflowDefs::IfW\_ParameterType::HalfWidth

Definition at line 97 of file tempassembled.f90.

3.21.2.3 LOGICAL SharedInflowDefs::IfW\_ParameterType::Initialized = .FALSE.

Definition at line 101 of file tempassembled.f90.

3.21.2.4 REAL(ReKi) SharedInflowDefs::IfW\_ParameterType::ReferenceHeight

Definition at line 94 of file tempassembled.f90.

3.21.2.5 REAL(ReKi) SharedInflowDefs::IfW ParameterType::Width

Definition at line 95 of file tempassembled.f90.

3.21.2.6 CHARACTER(1024) SharedInflowDefs::IfW\_ParameterType::WindFileName

Definition at line 88 of file tempassembled.f90.

3.21.2.7 CHARACTER(3) SharedInflowDefs::IfW\_ParameterType::WindFileNameExt

Definition at line 90 of file tempassembled.f90.

3.21.2.8 CHARACTER(1024) SharedInflowDefs::IfW\_ParameterType::WindFileName-Root

Definition at line 89 of file tempassembled.f90.

3.21.2.9 INTEGER SharedInflowDefs::IfW\_ParameterType::WindFileType = 0

Definition at line 91 of file tempassembled.f90.

The documentation for this type was generated from the following file:

· tempassembled.f90

## 3.22 InflowWind\_Module Module Reference

#### **Public Member Functions**

- subroutine, public IfW\_Init (InitData, InputGuess, ParamData, ContStates, Disc-States, ConstrStateGuess, OtherStates, OutData, Interval, ErrStat, ErrMsg)
- subroutine, public IfW\_CalcOutput (Time, InputData, ParamData, ContStates, -DiscStates, ConstrStates, OtherStates, OutputData, ErrStat, ErrMsg)
- subroutine, public IfW\_End (InitData, ParamData, ContStates, DiscStates, -ConstrStateGuess, OtherStates, OutData, ErrStat, ErrMsg)

#### **Private Attributes**

- INTEGER(IntKi), parameter DataFormatID = 1
- TYPE(ProgDesc), parameter IfW\_ProgDesc = ProgDesc( 'InflowWind', 'v1.00.-00', '27-Dec-2012')
- INTEGER UnWind

#### 3.22.1 Detailed Description

Definition at line 7222 of file tempassembled.f90.

- 3.22.2 Member Function/Subroutine Documentation
- 3.22.2.1 subroutine, public InflowWind\_Module::IfW\_CalcOutput ( REAL( DbKi ), intent(in) *Time*, TYPE( IfW\_InputType ), intent(in) *InputData*, TYPE( Ifw\_ParameterType ), intent(in) *ParamData*, TYPE( IfW\_ContinuousStateType ), intent(in) *ContStates*, TYPE( IfW\_DiscreteStateType ), intent(in) *DiscStates*, TYPE( IfW\_ConstraintStateType ), intent(in) *ConstrStates*, TYPE( IfW\_OtherStateType ), intent(inout) *OtherStates*, TYPE( IfW\_OutputType ), intent(inout) *OutputData*, INTEGER( IntKi ), intent(out) *ErrStat*, CHARACTER(\*), intent(out) *ErrMsg* )

Definition at line 7526 of file tempassembled.f90.

3.22.2.2 subroutine, public InflowWind\_Module::IfW\_End ( TYPE( IfW\_InputType ), intent(inout) InitData, TYPE( Ifw\_ParameterType ), intent(inout) ParamData, TYPE( IfW\_ContinuousStateType ), intent(inout) ContStates, TYPE( IfW\_DiscreteStateType ), intent(inout) DiscStates, TYPE( IfW\_ConstraintStateType ), intent(inout) ConstrStateGuess, TYPE( IfW\_OtherStateType ), intent(inout) OtherStates, TYPE( IfW\_OutputType ), intent(inout) OutData, INTEGER( IntKi ), intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 7714 of file tempassembled.f90.

3.22.2.3 subroutine, public InflowWind\_Module::IfW\_Init ( TYPE( IfW\_InitInputType ), intent(in) InitData, TYPE( IfW\_InputType ), intent(out) InputGuess, TYPE( IfW\_ParameterType ), intent(out) ParamData, TYPE( IfW\_ContinuousStateType ), intent(out) ContStates, TYPE( IfW\_DiscreteStateType ), intent(out) DiscStates, TYPE( IfW\_ConstraintStateType ), intent(out) ConstrStateGuess, TYPE( IfW\_OtherStateType ), intent(out) OtherStates, TYPE( IfW\_OutputType ), intent(out) OutData, REAL(DbKi), intent(inout) Interval, INTEGER(IntKi), intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 7316 of file tempassembled.f90.

- 3.22.3 Member Data Documentation

Definition at line 7254 of file tempassembled.f90.

3.22.3.2 TYPE(ProgDesc), parameter InflowWind\_Module::IfW\_ProgDesc = ProgDesc( 'InflowWind', 'v1.00.00', '27-Dec-2012') [private]

Definition at line 7256 of file tempassembled.f90.

**3.22.3.3 INTEGER InflowWind\_Module::UnWind** [private]

Definition at line 7291 of file tempassembled.f90.

The documentation for this module was generated from the following file:

• tempassembled.f90

## 3.23 InflowWind\_Module\_Types Module Reference

## **Public Attributes**

- INTEGER, parameter DEFAULT Wind = -1
- INTEGER, parameter Undef\_Wind = 0
- INTEGER, parameter HH\_Wind = 1
- INTEGER, parameter FF\_Wind = 2
- INTEGER, parameter UD Wind = 3
- INTEGER, parameter FD Wind = 4
- INTEGER, parameter CTP Wind = 5
- INTEGER, parameter HAWC Wind = 6

## 3.23.1 Detailed Description

Definition at line 303 of file tempassembled.f90.

3.23.2 Member Data Documentation

3.23.2.1 INTEGER, parameter InflowWind\_Module\_Types::CTP\_Wind = 5

Definition at line 334 of file tempassembled.f90.

3.23.2.2 INTEGER, parameter InflowWind\_Module\_Types::DEFAULT\_Wind = -1

Definition at line 328 of file tempassembled.f90.

3.23.2.3 INTEGER, parameter InflowWind\_Module\_Types::FD\_Wind = 4

Definition at line 333 of file tempassembled.f90.

3.23.2.4 INTEGER, parameter InflowWind Module Types::FF Wind = 2

Definition at line 331 of file tempassembled.f90.

3.23.2.5 INTEGER, parameter InflowWind\_Module\_Types::HAWC\_Wind = 6

Definition at line 335 of file tempassembled.f90.

3.23.2.6 INTEGER, parameter InflowWind\_Module\_Types::HH\_Wind = 1

Definition at line 330 of file tempassembled.f90.

3.23.2.7 INTEGER, parameter InflowWind Module Types::UD Wind = 3

Definition at line 332 of file tempassembled.f90.

3.23.2.8 INTEGER, parameter InflowWind Module Types::Undef Wind = 0

Definition at line 329 of file tempassembled.f90.

The documentation for this module was generated from the following file:

· tempassembled.f90

#### 3.24 InflowWind Subs Module Reference

**Public Member Functions** 

- subroutine GetWindType (ParamData, ErrStat, ErrMsg)
- subroutine InflowWind\_LinearizePerturbation (ParamData, LinPerturbations, Err-Stat, ErrMsg)
- REAL(ReKi) function InflowWind\_ADhack\_DIcheck (ParamData, ErrStat, Err-Msg)

#### 3.24.1 Detailed Description

Definition at line 6573 of file tempassembled.f90.

- 3.24.2 Member Function/Subroutine Documentation
- 3.24.2.1 subroutine InflowWind\_Subs::GetWindType ( TYPE( IfW\_ParameterType), intent(inout) ParamData, INTEGER(IntKi), intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 6626 of file tempassembled.f90.

Definition at line 6905 of file tempassembled.f90.

3.24.2.3 subroutine InflowWind\_Subs::InflowWind\_LinearizePerturbation ( TYPE( IfW\_ParameterType), intent(inout) ParamData, REAL(ReKi), dimension(7), intent(in) LinPerturbations, INTEGER, intent(out) ErrStat, CHARACTER(\*), intent(out) ErrMsg )

Definition at line 6744 of file tempassembled.f90.

The documentation for this module was generated from the following file:

· tempassembled.f90

## 3.25 SharedInflowDefs Module Reference

#### **Data Types**

- type IfW ConstraintStateType
- type IfW\_ContinuousStateType
- type IfW DiscreteStateType
- type IfW\_InitInputType
- type IfW\_InputType
- type IfW\_OtherStateType
- type IfW\_OutputType
- type IfW\_ParameterType

## 3.25.1 Detailed Description

Definition at line 12 of file tempassembled.f90.

The documentation for this module was generated from the following file:

· tempassembled.f90

#### 3.26 UserWind Module Reference

**Public Member Functions** 

- subroutine, public UsrWnd\_Init (ErrStat)
- REAL(ReKi) function, public UsrWnd\_GetValue (VarName, ErrStat)

- REAL(ReKi) function, public UsrWnd\_GetWindSpeed (Time, InputPosition, Err-Stat)
- subroutine, public UsrWnd\_Terminate (ErrStat)

#### **Private Attributes**

- LOGICAL, save Initialized = .FALSE.
- REAL(ReKi) UWmeanU
- REAL(ReKi) UWmeanV
- REAL(ReKi) UWmeanW

# 3.26.1 Detailed Description

Definition at line 6376 of file tempassembled.f90.

- 3.26.2 Member Function/Subroutine Documentation
- 3.26.2.1 REAL(ReKi) function, public UserWind::UsrWnd\_GetValue ( CHARACTER(\*), intent(in) VarName, INTEGER, intent(out) ErrStat )

Definition at line 6449 of file tempassembled.f90.

3.26.2.2 REAL(ReKi) function, public UserWind::UsrWnd\_GetWindSpeed ( REAL(DbKi), intent(in) *Time*, REAL(ReKi), dimension(3), intent(in) *InputPosition*, INTEGER, intent(out) *ErrStat* )

Definition at line 6503 of file tempassembled.f90.

3.26.2.3 subroutine, public UserWind::UsrWnd\_Init ( INTEGER, intent(out) ErrStat )

Definition at line 6406 of file tempassembled.f90.

3.26.2.4 subroutine, public UserWind::UsrWnd\_Terminate ( INTEGER, intent(out) ErrStat )

Definition at line 6545 of file tempassembled.f90.

- 3.26.3 Member Data Documentation
- 3.26.3.1 LOGICAL, save UserWind::Initialized = .FALSE. [private]

Definition at line 6390 of file tempassembled.f90.

3.26.3.2 REAL(ReKi) UserWind::UWmeanU [private]

Definition at line 6392 of file tempassembled.f90.

**3.26.3.3 REAL(ReKi) UserWind::UWmeanV** [private]

Definition at line 6393 of file tempassembled.f90.

**3.26.3.4 REAL(ReKi) UserWind::UWmeanW** [private]

Definition at line 6394 of file tempassembled.f90.

The documentation for this module was generated from the following file:

· tempassembled.f90

# 4 File Documentation

## 4.1 tempassembled.f90 File Reference

#### **Data Types**

- module SharedInflowDefs
- type SharedInflowDefs::IfW\_InitInputType
- type SharedInflowDefs::IfW ContinuousStateType
- type SharedInflowDefs::IfW DiscreteStateType
- type SharedInflowDefs::IfW ConstraintStateType
- type SharedInflowDefs::IfW OtherStateType
- type SharedInflowDefs::IfW\_ParameterType
- type SharedInflowDefs::IfW\_InputType
- type SharedInflowDefs::IfW OutputType
- module InflowWind\_Module\_Types
- module CTWind
- type CTWind::CTWindFiles
- type CTWind::CT\_Backgr
- module FDWind
- · module FFWind
- interface FFWind::FF GetValue
- module HAWCWind
- module HHWind
- type HHWind::HH\_Info
- module UserWind
- module InflowWind\_Subs

- module InflowWind Module
- module Ifw Driver Types
- type Ifw\_Driver\_Types::IfW\_Driver\_ArgFlags
- type Ifw\_Driver\_Types::IfW\_Driver\_Args
- module Ifw\_Driver\_Subs

#### **Functions/Subroutines**

- REAL(ReKi) function StringToReal (StringIn, ErrStat)
- subroutine ParseArg (Settings, SettingsFlags, ThisArg, ErrStat, ErrMsg)
- program InflowWind Driver
- 4.1.1 Function/Subroutine Documentation
- 4.1.1.1 program InflowWind\_Driver ( )

Definition at line 8597 of file tempassembled.f90.

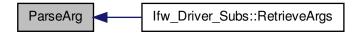
4.1.1.2 subroutine RetrieveArgs::ParseArg ( TYPE( IfW\_Driver\_Args ), intent(inout) Settings, TYPE( IfW\_Driver\_ArgFlags ), intent(inout) SettingsFlags, CHARACTER(\*), intent(in) ThisArg, INTEGER(IntKi), intent(out) ErrStat, CHARACTER(1024), intent(out) ErrMsg )

Definition at line 8067 of file tempassembled.f90.

Here is the call graph for this function:



Here is the caller graph for this function:



4.1.1.3 REAL(ReKi) function RetrieveArgs::StringToReal ( CHARACTER(\*), intent(in) StringIn, INTEGER(IntKi), intent(out) ErrStat )

Definition at line 8038 of file tempassembled.f90.

Here is the caller graph for this function:

