

	Output type										
Input type	$t$	Euler	RPY	$\theta, v$	$R$	$T$	Twist vector	Twist	Unit-Quaternion	S03	SE3
$t$ (3-vector)						transl		Twist('T')			SE3()
Euler (3-vector)					eul2r	eul2tr			UnitQuaternion.eul()	S03.eul()	SE3.eul()
RPY (3-vector)					rpy2r	rpy2tr			UnitQuaternion.rpy()	S03.rpy()	SE3.rpy()
$\theta, v$ (scalar + 3-vector)					angvec2r	angvec2tr			UnitQuaternion.angvec()	S03.angvec()	SE3.angvec()
$R$ ( $3 \times 3$ matrix)		tr2eul	tr2rpy	tr2angvec		r2t	trlog		UnitQuaternion()	S03()	SE3()
$T$ ( $4 \times 4$ matrix)	transl	tr2eul	tr2rpy	tr2angvec	t2r		trlog	Twist()	UnitQuaternion()	S03()	SE3()
Twist vector (3- or 6-vector)					trexp	trexp		Twist()		S03.exp()	SE3.exp()
Twist						.T	.S				.SE
Unit-Quaternion		.toeul	.torpy	.toangvec	.R	.T				.S03	.SE3
S03		.toeul	.torpy	.toangvec	.R	.T	.log		.UnitQuaternion		.SE3
SE3	.t	.toeul	.torpy	.toangvec	.R	.T	.log	.Twist	.UnitQuaternion	.S03	

Dark grey boxes are not possible conversions. Light grey boxes are possible conversions but the Toolbox has no direct conversion, you need to convert via an intermediate type. Red text indicates classical Robotics Toolbox functions that work with native MATLAB® vectors and matrices. Class.type() indicates a static factory method that constructs a Class object from input of that type. Functions shown starting with a dot are a method on the class corresponding to that row.